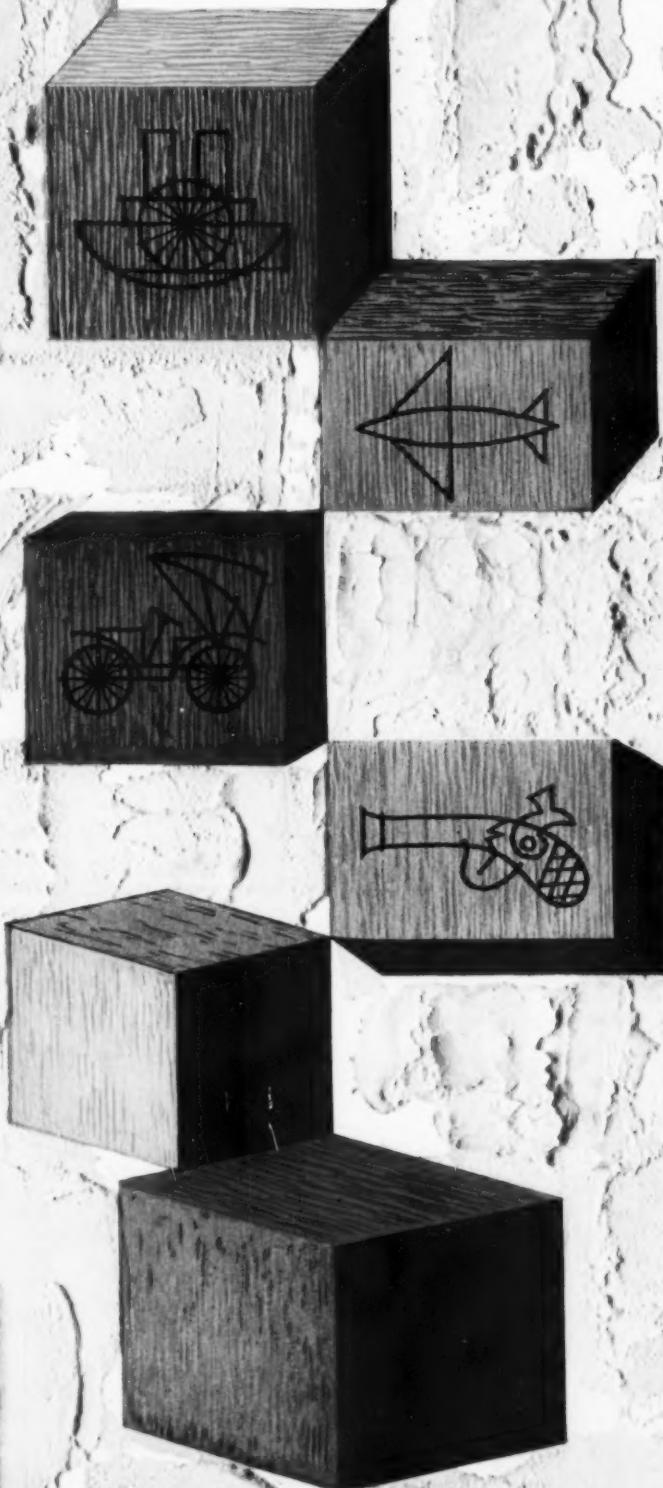


MODERN PACKAGING



Giusto

IN THIS ISSUE:

*How packaging helps
intelligent selection
of toys and games*

JUNE 1954

HOW MUCH OF YOUR PACKAGING DOLLAR



ESCAPES

We'd welcome an opportunity to talk with you about reducing your packaging costs by increasing your packaging machine speeds with faster setting, modern adhesives.

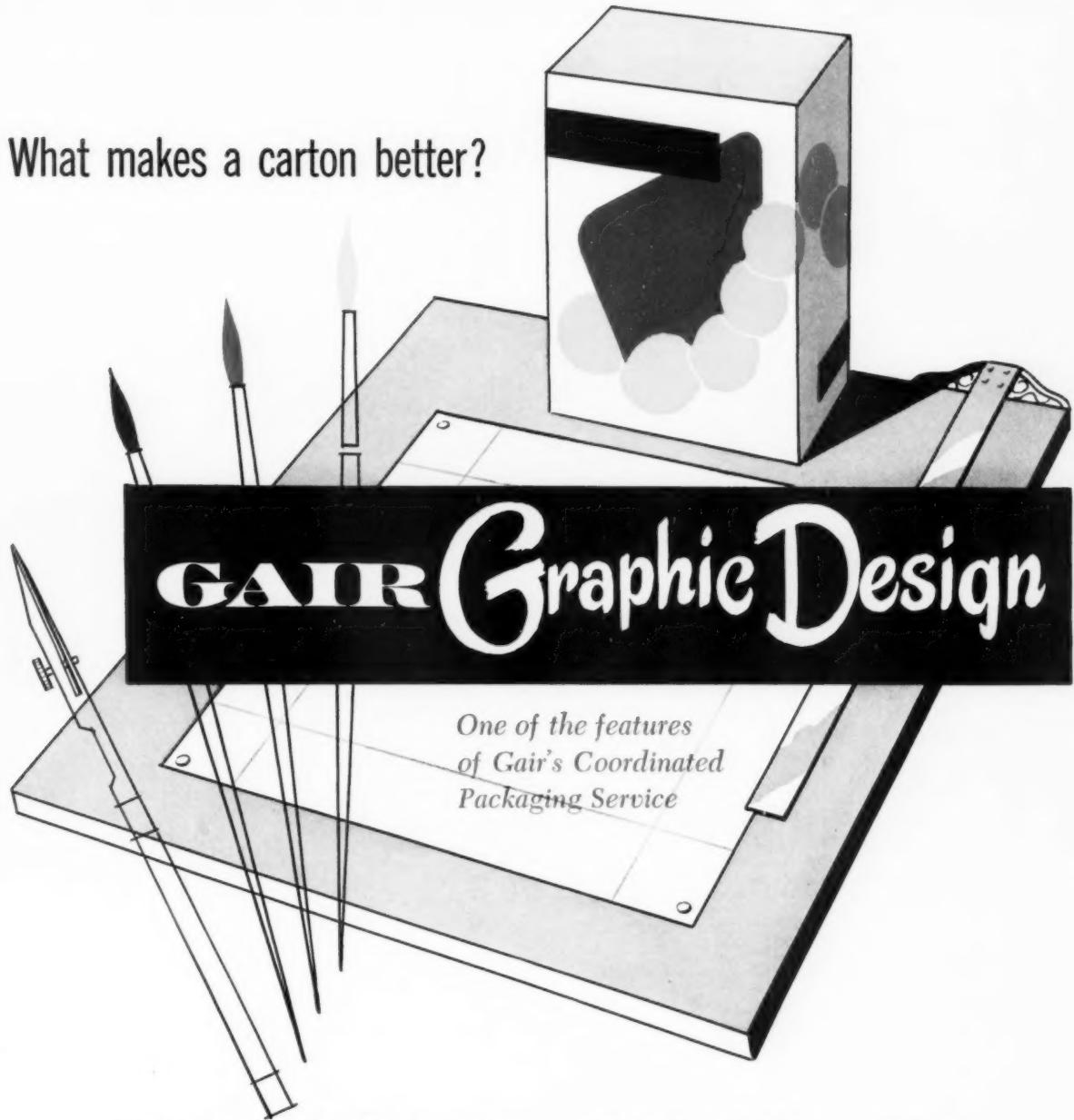


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What makes a carton better?



In the multi-colored world of a modern store, where your product has to fight for attention, Gair-designed cartons spark the shopper's urge to look, to buy.

Here's why: More than good art goes into a Gair design . . . more than a keen sense of merchandising. Even the details of carton construction, the requirements of printing on paperboard and the effects of certain inks are considered by the Gair art staff. This talent, developed and passed on over the years since Gair produced the first

mechanically-made folding carton, is part of the service Gair offers you.

Add *graphic design* to the other features—faithful reproduction of the artwork, structural design, carton production from a variety of materials, expert help on mechanical packaging—and you have the story on Gair's Coordinated Packaging Service.

This service can solve *your* packaging problem, too; we'll be pleased to tell you how. *Write for a copy of Cartons by Gair. Please address request to Dept. 61.*



GAIR

FOLDING CARTONS
SHIPPING CONTAINERS
PAPERBOARD

ROBERT GAIR COMPANY, INC. • 155 EAST 44th STREET • NEW YORK 17

MODERN PACKAGING

June 1954, Vol. 27, No. 10

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*Reg. U.S. Pat. Office



another
REDINGTON
MACHINE

HIGH SPOT
in
**AUTOMATIC
PACKAGING**

**MULTIPLE STYLES IN YOUR LINE?
MULTIPLE INSERTS IN EACH PACKAGE?
ONE REDINGTON HANDLES THEM ALL!**

The several packages illustrated, with the extra inserts required for each, are easily handled by a REDINGTON Type 23 fully automatic cartoning machine for *Miles Laboratories, Inc.* of Elkhart, Indiana.

One of the special features of this versatile machine is that it is equipped to handle two circulars for each package where required. Multiple operations of this kind are no problem for REDINGTON equipment; other models have been developed to handle such inserts as droppers, booklets, platforms, corrugated liners, etc.

And another great REDINGTON advantage, of course, is the ease with which it can be changed from one size to another, even where sizes in a line vary much more widely than do these Miles packages. This means less downtime, and a practically uninterrupted flow of production at high speeds.

Long-life REDINGTON construction features, too, add to the profit you'll get by investing in a REDINGTON. *One-Piece Cast-Iron Base* for rigidity—*Self-Aligning Roller Bearings*—*Ground and Polished Shafting*—these are but a few of the "extras" which are standard on all REDINGTONS.

Whether your volume is medium or large you will find it worth while to check up on what a REDINGTON can do for you. Call or write our nearest office—we'll be glad to discuss the possibilities in detail, and without obligation.

HERE IS THE AUTOMATIC OPERATION:

Filled, capped and labeled bottles are fed into the machine, standing upright on the intake conveyor belt. The REDINGTON lays each bottle down into a pocket of the article conveyor. As the filled pocket approaches the circular magazines, a separate circular is fed from each and brought together; then the two are folded down to a unit approximately $5\frac{1}{4}$ " x $7\frac{1}{8}$ ", which the machine places over the top of the bottle. At the next station, a flat-stacked carton is fed from the magazine and formed; the REDINGTON then inserts the whole bottle-and-circular assembly, and finishes the pack by neatly tucking in the end flaps. Cartons will not feed if an empty pocket approaches the magazine.

Send for our 32 page illustrated catalog of REDINGTON standard and special machines for AUTOMATIC PACKAGING of everything from Codfish to Razor Blades. Write our nearest office.

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SPECIAL PACKAGING
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indexed in *Industrial Arts Index*.

Never underestimate the male

THE AVERAGE PACKAGER tends to think of food stores as populated solely by women. "Mrs. America" is the image behind the gleam in every package-designer's eye if he's thinking about the supermarket—and the supermarket is, of course, the major medium for many things besides food today.

Far be it from us to underestimate the power of a woman, but we've long suspected that the vision of this indispensable sex as the sole arbiter of purchasing was a bit myopic. And now comes Dale Anderson, director of research for Erwin, Wasey, with facts and figures to prove it.

Mr. Anderson's permanent Consumer Panel, operating in 275 interviewing places throughout the country, has discovered that seven out of 10 men shop in food stores at least once a week. The majority of the men report that they're doing the shopping more frequently today than they did five years ago.

Obviously, it's the big supermarkets—and their satellites comprising the modern urban shopping center—that have attracted Mr. America. Shorter work hours and longer shopping hours have made it easier for him to see for himself where the pay check goes. Three-fourths of the men who shop in food stores, the survey shows, go to the large supermarkets. And this preference is even stronger among those who have acquired the shopping habit only in the last five years.

These male food-store shoppers live in all parts of the country and come from all walks of life. They are in the majority in all age groups, although the shopping habit seems to be stronger and more frequent among men in their 20s—the newlyweds—than older men. The proportions shopping in food stores decline slightly but steadily as age increases.

The inference is clear. During the years when brand preferences that may last a lifetime are being established, the man of the house is increasingly influential. It will pay every packager to steer clear of the type of package design that appeals only to feminine fancy. There must also be something for the boys.

The Editors



Dobeckmun Creates...



A one-cup wrap for Nescafe® that gets instant sales results!

The problem: To produce a sample package that would *protect* and *sell* moisture-sensitive Nescafe. The solution: Dobeckmun's Metalam®, laminated film and foil, colorfully printed for spot identification. Dobeckmun has come up with more than 800 different packaging combinations so far. If one of these isn't right for your product, we'll bring out one that is. Get in touch with us today. You'll profit.



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soft goods
take a hard beating

call for strong, flexible, long-lasting, crystal-clear

Cellothene

FILM LAMINATE OF POLYETHYLENE/CELOPHANE

Soft goods, so widely distributed, have always been a problem for flexible packagers, as these limp and bulky items must be seen to be sold. CELLOTHENE, already widely used for foods, pharmaceuticals and cosmetics, has important applications for textile and domestic items. Shatter-proof, puncture-resistant CELLOTHENE film stands up to rough handling, has a long shelf life and retains the window-pane clarity so important for effective display. For your soft goods and other packaging problems, turn to CELLOTHENE—the film built to take a beating!

Cheslam Corporation

Division of Chester Packaging Products Corp.
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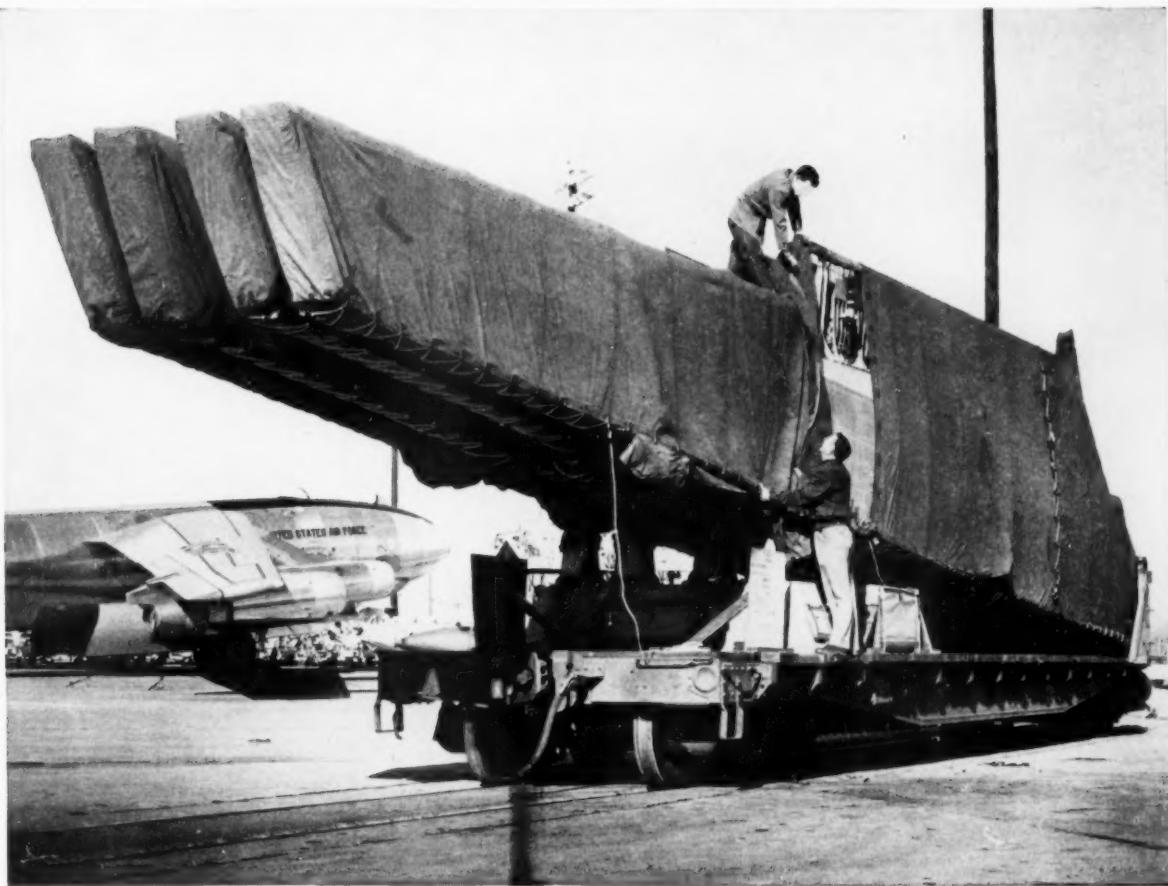


RE-USE FOR STORAGE

Long-life CELLOTHENE film packages make them ideal for home storage re-use... and do women go for this feature! Printing, "Cheslocked" between two layers of film, continues to speak for you long after the original sale.

Another new development using

B. F. Goodrich Chemical *raw materials*



B. F. Goodrich Chemical Company does not make these wing covers.
We supply only the Geon paste resin.

Cover-up story on Jet Wings

THESE wings for B-47 Stratojet bombers must be protected during rail shipment from sub-assembly plants to the Boeing Airplane Company's Wichita, Kansas, Division. Here's how Geon polyvinyl materials play a part in getting the wings there safely.

The wings are an oversize load, measuring 58 feet. They are shipped 2 pairs to a flat car and must be protected against damage from weather, smoke, soot and abrasion. A plastisol based on Geon paste resin coated over nylon fabric was used by the manufacturer for the special covers designed for this job. As the result, special crating or

boxcars are not needed and wings are protected during open air storage, saving hangar and warehouse space.

Thanks to the Geon coating, these covers resist the effects of grease, oil, mildew and retard flame. High tensile and tear strength of the fabric and Geon coating have enabled the covers to make more than 70 trips—with more to come!

This use for a Geon material may give you ideas for solving a problem—or developing a product with ready sales appeal. Geon materials have many profitable uses, from upholstery and wire insulation to rigid tubing, sponge

and more applications. For helpful technical information, please write Dept. GL-6, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.



GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more saleable
GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON colors



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by **Riegel**

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NATIONAL CAN



The next time you go on a camping or hunting trip—check your supplies! You'll find that ever so many of the things you have with you have been packaged in National Can containers. The great variety of products packaged in NC cans is due—to a great degree—to the research and package development done by our team of production expert, research chemist, agronomist and merchandising counsel. Call or wire today—for specific information.



Look at Brand 'G'

Brand "G" was always a **GOOD** product,

But sales were *down*

REASON . . .

Brand "G" was in a **No-Show** package.

Brand "G's" smart processors

Called the nearest  office

(There is always an H-A office or factory near you)

RESULT . . . a new showcase.*

So we say, Look at Brand "G"



That's what the customers do,



And they buy it, too!

* Capped by an H-A Lithographed
Closure for Additional Selling

HAZEL-ATLAS GLASS COMPANY WHEELING, W. VIRGINIA

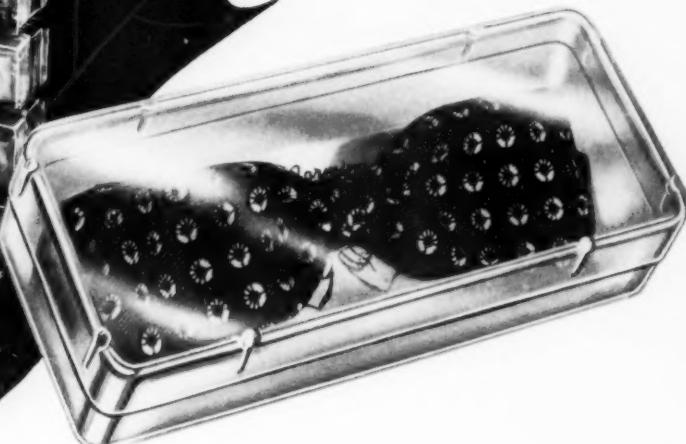


Bow Ties
"grow" on trees!

TRI-STATE

Rigid Plastic Bonus Boxes

*help put over a
slick merchandising idea!*



Tri-State
Rigid Plastic Box No. 05,
2" x 5" x 1", is just one
of a huge variety of stock
sizes and shapes that will
fit your product—or we will
mold to your specifications.



THIS ingenious display tree dreamed up by The Crown Company of Chicago provided the ship-show-and-sell answers to the merchandising of its novel self-forming clip bow. And the tree trim provided by Tri-State is the individual "showcases" that sell the bows on sight!

In addition to keeping the bows

andbox-fresh, en route or on the counter, these crystal-clear boxes pack an extra selling premium. They're reusable for studs, cuff links, fishing flies, what-not! Tie-ups like these are a specialty of Tri-State. As molders of the *world's greatest assortment of rigid plastics*, we can provide the bonus package that will put *your* show on the road to increased sales!

The best Rigid Plastic Boxes are Injection Molded by
TRI-STATE PLASTIC MOLDING CO., Inc.
HENDERSON 6, KENTUCKY



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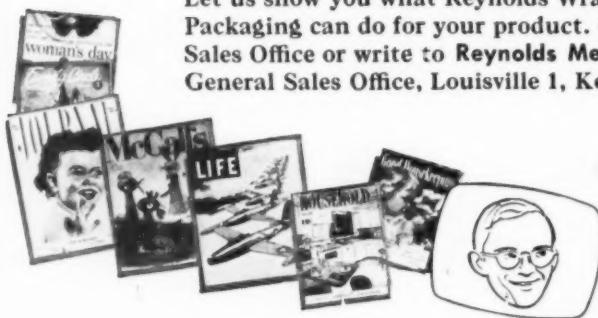
*Sign of the best catch
in frozen foods...*

PROTECTED QUALITY

The Pot Pie in its aluminum dish has become a national institution . . . and a fast-growing favorite is Chicken-of-the-Sea Tuna Pie.

Delicious, yes . . . and the package foretells its flavor, bespeaks its quality. The package does this not just by the gleaming beauty of color-printed aluminum . . . but, specifically, by the seal that tells the story of aluminum's *protection*. Watch customers at the frozen food cabinets. Watch more and more of them look for the Reynolds Wrap Aluminum Packaging Seal.

For many other kinds of products, too, this seal is boosting sales. To women everywhere, Reynolds Wrap stands for aluminum foil . . . and its superior protection. That's why the Seal means so much to them. Let us show you what Reynolds Wrap Aluminum Packaging can do for your product. Call any Reynolds Sales Office or write to **Reynolds Metals Company**, General Sales Office, Louisville 1, Kentucky.



Consumer Ads Spread Consumer Acceptance!

Consistent, powerful TV and magazine advertising consolidates consumer acceptance of the Seal. See the fifth ad featuring Ice Cream in the June "Ladies' Home Journal."

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

REYNOLDS ALUMINUM

Pioneers in Aluminum Foil Packaging

QUALITY
PROTECTED WITH

REYNOLDS WRAP

ALUMINUM
PACKAGING

TRADE MARK

8 OUNCES
NET WT.

Chicken
OF THE Sea

BRAND

Frozen

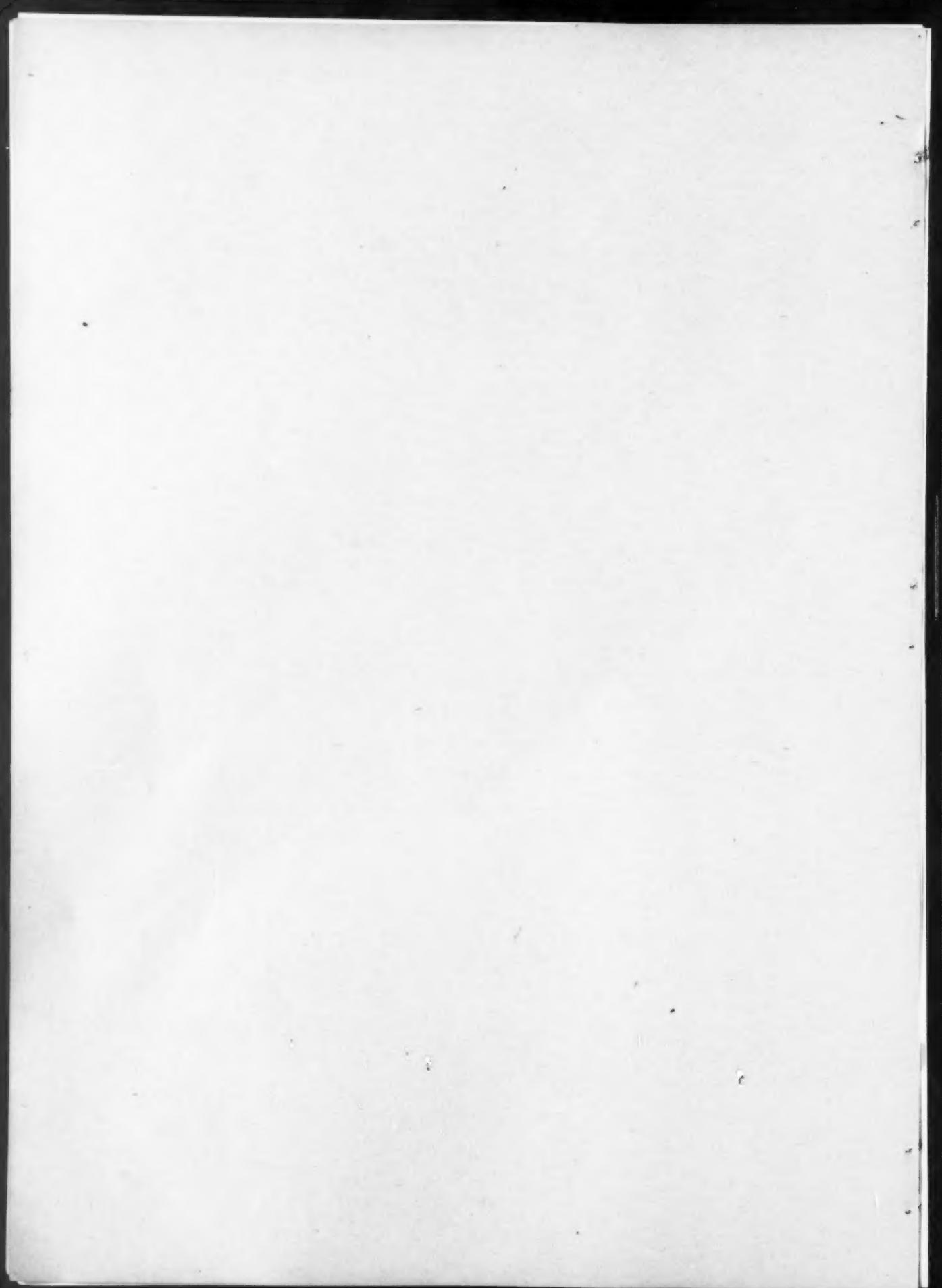
TUNA PIE

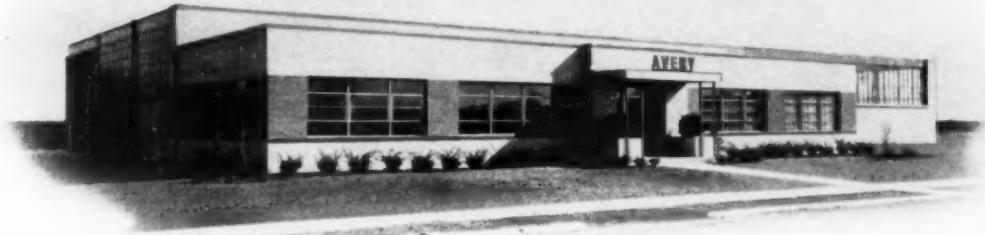
Chicken
OF THE Sea

FRESH FROZEN

TUNA PIE

QUALITY
PROTECTED WITH
REYNOLDS WRAP
ALUMINUM
PACKAGING





The Avery Paper Company
Announces
that it is now in production of its quality line of
Avery Dry-Adhering Papers
in its new modern plant at Painesville, Ohio.

Avery Papers are pressure sensitive, instantly self-adhering without moistening. Available in a variety of stocks. They are ideal for labels, display signs, posters, bumper strips, especially for smooth surfaces such as glass, porcelain, plastics, fine woods, metals—stick tight but peel off easily without damage to finish or leaving any mark. Avery Papers are now available to the graphic arts industry.

Write for samples, data and price list.

The Avery Paper Company

PAINESVILLE, OHIO

DRY
Avery • Paper
ADHERING

MEMO to...The Avery Paper Company
254 Chester Street, Painesville, Ohio

Please send samples and prices

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Company _____

Street _____

City and State _____

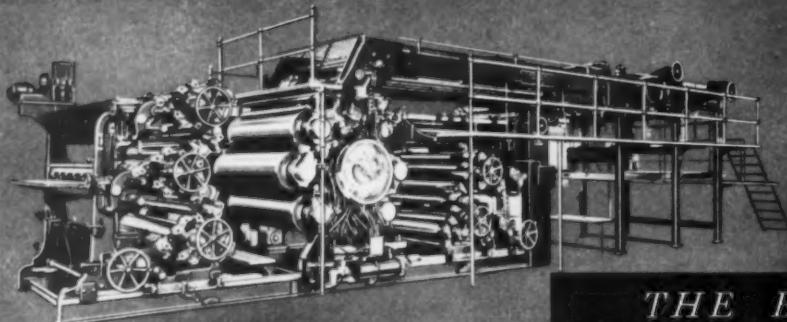
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For TONNAGE • FIDELITY • REGISTER

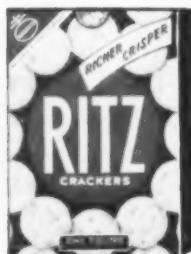


5 COLOR COTTRELL



L.S./M.F.T. LUCKY STRIKE

THE BOXBOARD ROTARY



Top notch clients and outstanding packaging are the earned results of any Cottrell equipped box plant. High speed fidelity, and complete sheet control are your guarantee of quality and quantity . . . a rare combination.

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COLOR PRESS PIONEERS

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Maybourn Division,
Milwaukee, Wis.

Sales Offices:
New York, Chicago, London

THERE'S A TIE-IN FOR YOU IN THIS PACKAGING SUCCESS STORY



Product of Shuford Mills, Inc., Hickory, N. C.

ALARGE cotton cordage manufacturer had long sought a better way of merchandising twine — of giving it identification, as well as a clean, neat dispenser.

The answer, furnished by the Goodyear Packaging Engineer, was a snug, PLIOFILM stretch wrap — as you can see in the above picture.

The twine looks almost glamorous in its new transparent wrap. But more than that, PLIOFILM keeps it clean, protects it from dust, moisture and excessive handling. The con-

sumer spots the brand name at a glance. And the exclusive PLIOFILM stretch wrap process insures a strong, durable package that lasts as long as the twine.

What's your packaging problem? Moisture control—a tight, wrinkle-free package—longer shelf life — elimination of rewraps? You may well discover the answer in a PLIOFILM wrap, specifically designed for you by the G.P.E. Why not write him and find out? Address:

Goodyear, Pliofilm Dept. R-6418
Akron 16, Ohio



Pliofilm, a rubber hydrochloride-T M The Goodyear Tire & Rubber Company, Akron, Ohio

Good things
are better in

Pliofilm

3-way protection against air, moisture, liquids

*"Like
Sea
Shells
Pink"*

Mothers everywhere protect their babies' soft, smooth, tender skin with Comfortine* Baby Ointment. This external application is prepared for use in minor dermatitis and for protection against chafing, chapping, windburn, poison ivy dermatitis and sunburn.



Comfortine Baby Ointment is packaged in one-pound jars, 100-Gram jars and 25-Gram jars by William H. Rorer, Inc., Pharmaceutical Chemists, Philadelphia, Pa.

Crown Screw Caps are used as closures on Comfortine Baby Ointment. These caps have the well-known Deep Hook Thread and scientifically selected liners. In addition to their dependable sealing qualities, Crown Screw Caps provide trouble-free application on the production line . . . easy opening and tight re-sealing. Before ordering closures again for your products, find out about the advantages of ordering from CROWN.

Crown Cork & Seal Company, Inc.
Baltimore 3, Maryland.

*World's Largest Maker
of Metal Closures.*

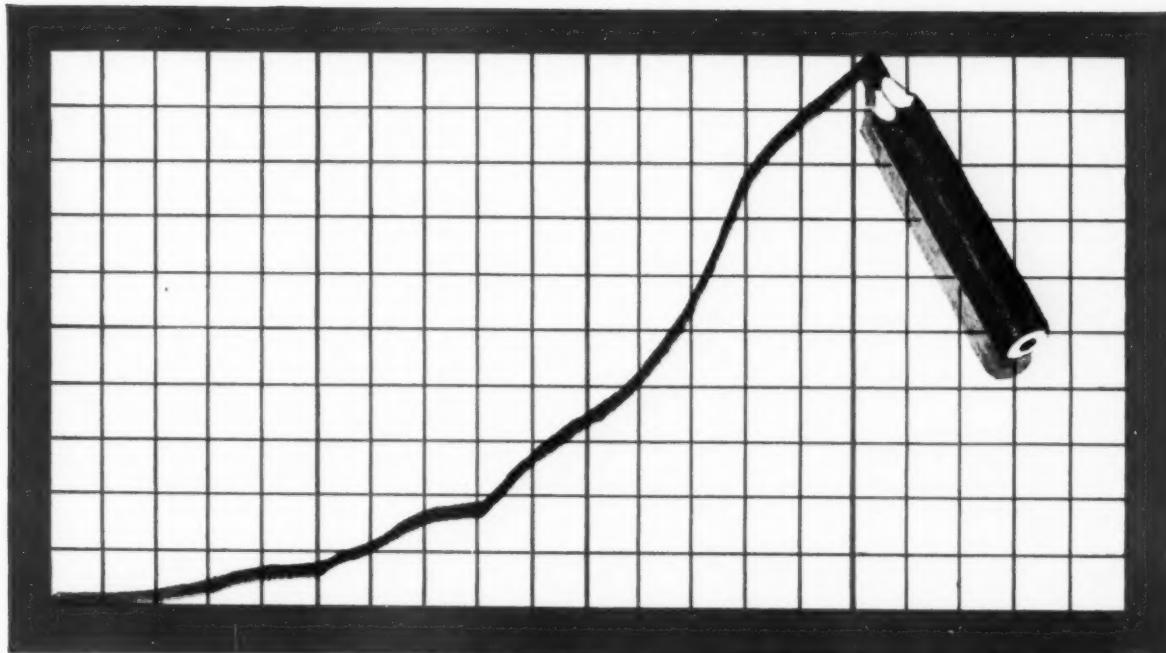


CROWN CLOSURES

Approved by millions of housewives

MODERN PACKAGING

AMERICA'S FASTEST GROWING EXTRUDER OF POLYETHYLENE FILM - **PLICOSE**



Produced in our giant new plant, PLICOSE polyethylene—flat and tubular, gusseted and treated, plain and embossed—is proving the ideal film for almost any polyethylene packaging application.

Uniformity in quality and gauge, together with service and reliability, are earning PLICOSE its rapidly growing popularity. It is no wonder that more and more converters are using PLICOSE in ever-increasing quantities.

If you are not yet using PLICOSE, write today for full information. Remember, PLICOSE is now your best source for all types of polyethylene film:

- **FLAT**
- **TUBULAR**
- **EMBOSSED**
- **Any size tubular**
- **GUSSETED**
- **TREATED**
- **Any width to 108"**
- **Any gauge**

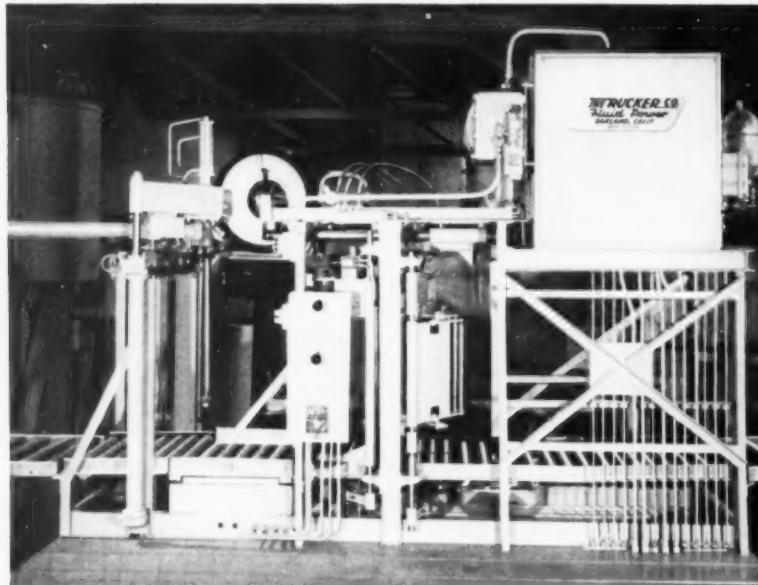


PLICOSE MANUFACTURING CORP.

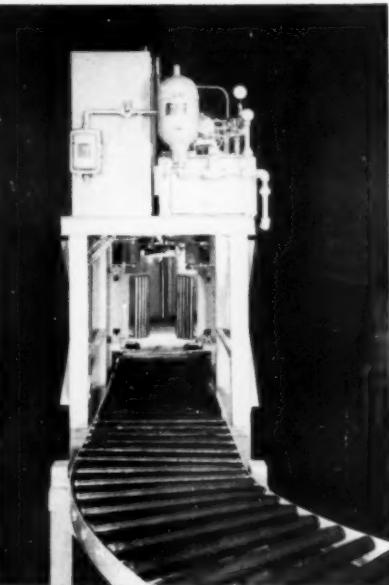
An affiliate of HARTE & COMPANY, INC.

267 FIFTH AVENUE, NEW YORK 16 • 937 MAPLE AVENUE, LOS ANGELES 15

Take this approach to faster drum filling — and save



Front view, The Rucker Automatic Drum Filler



View along the approach conveyor leading into the Rucker Automatic Drum Filler

The RUCKER Automatic Drum Filler

The Rucker Automatic Drum Filler completely eliminates manual handling of drums during the filling operation. Manned by a single attendant, this unit accepts drums; locates and indexes bung openings; fills, weighs and releases drums with a speed that assures maximum efficiency and economy at any rate of production.

By actual test, the Rucker Automatic Drum Filler more than triples the output of an average manual filling station.

Precision-engineered for maximum flexibility, consistent with accuracy, the Drum Filler permits quick changeover from one product to another through fast, easy interchange of filling lances. It accommodates all existing 53-55

gallon drums (except the Bayonne Barrel) and automatically compensates for variations in tare weights, limiting overfill to a minimum of one pound.

Submerged filling, accomplished by a hydraulically-controlled lance, minimizes foaming and avoids static spark discharge. Additional lances are available for multiple-product filling lines. Special stainless steel lances may be had for filling corrosive materials or food stuffs.

When the volume at a given filling station does not require the

speed and capacity of the Automatic Drum Filler, the efficiency and economy of the station can be substantially increased by the Rucker Semi-Automatic Drum Filler, which performs all of the functions of the Automatic unit except the positioning of the bungs. The special Semi-Automatic unit may be converted to full automatic operation if desired.

Write, today, for full information on these high-efficiency units. We will welcome an opportunity to furnish proof of the ability of our equipment to cut packaging costs on any operation.

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Here's a new name in packaging materials—
IVITHENENE . . . from a company
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IVITHENENE is polyethylene extruded in film, lay-flat tubing and heavy sheeting. It offers all the remarkable advantages of top quality polyethylene and has achieved wide acceptance as material for drum liners, multiwall bag liners, textile wraps, produce packaging and fabricated containers.

And it offers an important additional advantage—Irvington's extensive production facilities permit unusually prompt delivery to users—both large and small.

For information on characteristics, suggested applications and technical properties, just mail the coupon below for your copy of our **IVITHENENE** booklet on packaging materials.

SEND THIS CONVENIENT COUPON NOW

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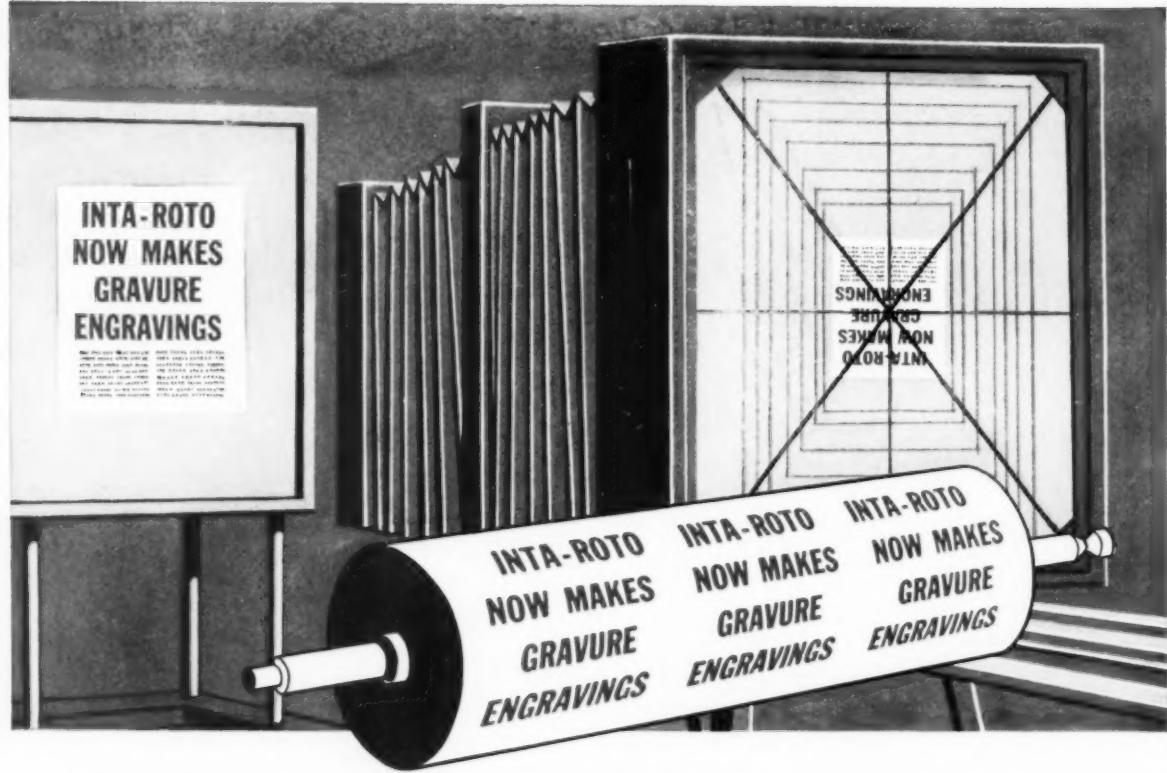
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WEST *and* EAST!

Plants strategically
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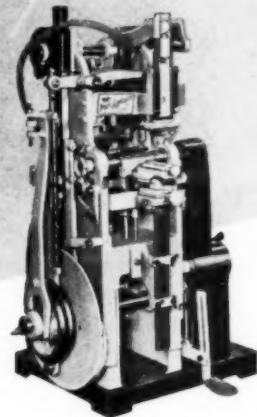
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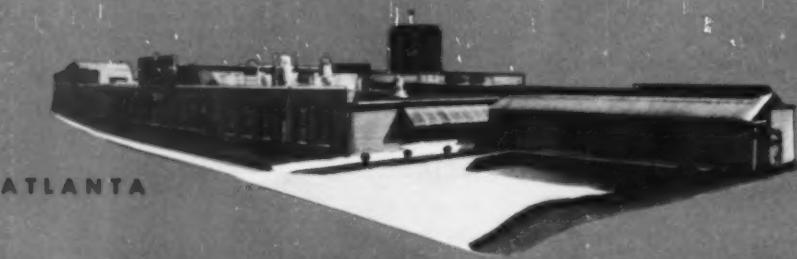


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in the Pollock people . . . the artisans who design and the operators who produce your bakery packages. Their experience, plus their determination to make the finest products you can buy, are important reasons why Pollock is *first in bakery packaging*.

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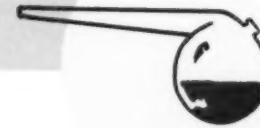
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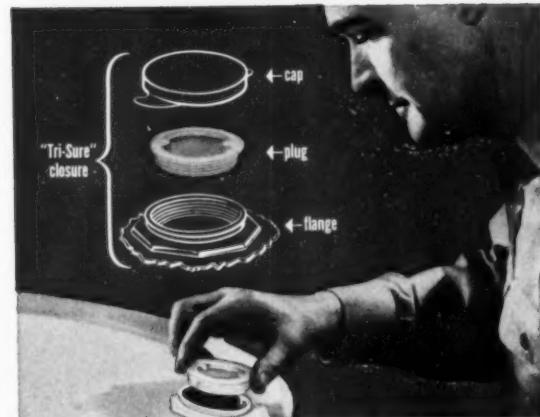
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Cosmetic jar of "Alathon"
is injection-molded with double
wall, to keep product fresh
... is non-contaminating.



Du Pont "ALATHON" points the way to improved package design



PLUGS molded of Du Pont "Alathon" are tough, re-usable . . . molded in one integral part complete with threads.



SQUEEZE BOTTLES of "Alathon" are unbreakable, pleasantly warm to the touch, enhance sales appeal.

DU PONT "ALATHON"** polyethylene resin is a versatile engineering material ideally suited for the packaging industry. "Alathon" is inert to most chemicals . . . tough and flexible even at low temperatures.

"Alathon" polyethylene resin needs no plasticizer and is free from odor, taste and toxicity. It is light in weight (sp. gr. 0.92) and has a low rate of water-vapor transmission. And "Alathon" is readily molded in many convenient shapes and sizes.

Investigate the properties of Du Pont "Alathon" and the other members of the Du Pont family of engineering materials—"Zytel"** nylon resin, "Teflon"** tetrafluoroethylene resin, and "Lucite"** acrylic resin. The applications shown on this page are typical of the packaging improvements made possible when design and service requirements are evaluated in terms of the properties of these unique engineering materials. For further information, use the coupon below.

*Trade-marks of E. I. du Pont de Nemours & Co. (Inc.)

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ALATHON
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BETTER THINGS FOR BETTER LIVING
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Please send me more information on DuPont "Alathon" polyethylene resin: Uses Processing Techniques Properties I am also interested in receiving more information on: "Zytel" nylon resin "Teflon" tetrafluoroethylene resin "Lucite" acrylic resin .

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Title _____

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Street Address _____

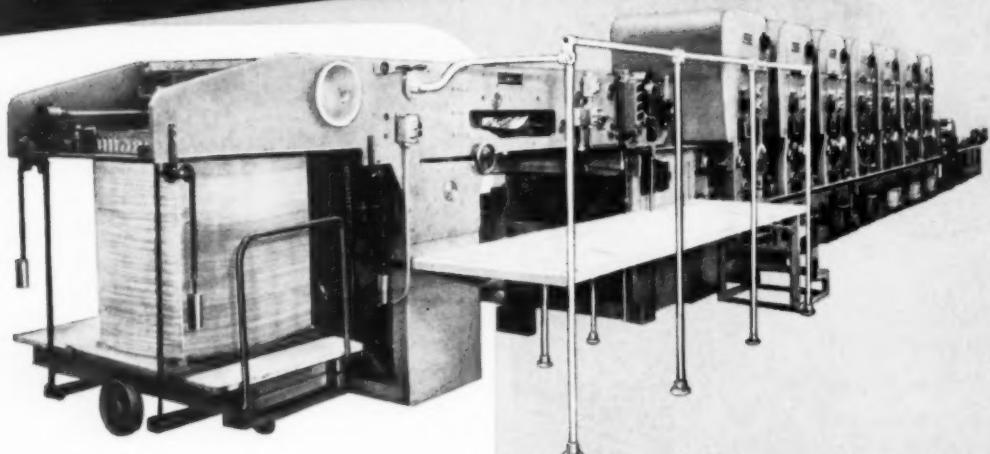
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NOW—for the first time—you can take advantage of the high speed of modern rotogravure presses for label and wrapper printing. Improved Champlain Sheet Delivery—operating inline with a Champlain Rotogravure Press—delivers square-cut sheets with $1/64$ " accuracy $1\frac{1}{2}$ TIMES FASTER THAN ANY OTHER STANDARD SHEETER!

Standard Sheeter Sizes	Speeds*								
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	Ft. Per Min.	Sheets Per Hr.	Ft. Per Min.	Sheets Per Hr.	Ft. Per Min.	Sheets Per Hr.			
20"	400	11,000	450	12,300	500 up	14,800	21"	26"	13"
24"	400	8,500	450	10,300	400 up	12,300	28"	34"	17"
30"	400	8,500	500	10,300	400 up	12,300	37"	34"	17"
48"	400	~ 8,500	500	10,300	400 up	12,300	45"	34"	17"

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For Rotogravure: high-speed precision-register printing on practically *any* stock in multiple colors—ideal for meeting the increasing demand for high-quality, high quantity wraps and labels for packaged products.

For Improved Sheet Delivery: greater production with inline economy.

PLUS

- **HIGH SPEED**... from 8,500 to 12,500* sheets per hour—chart at left shows full range.
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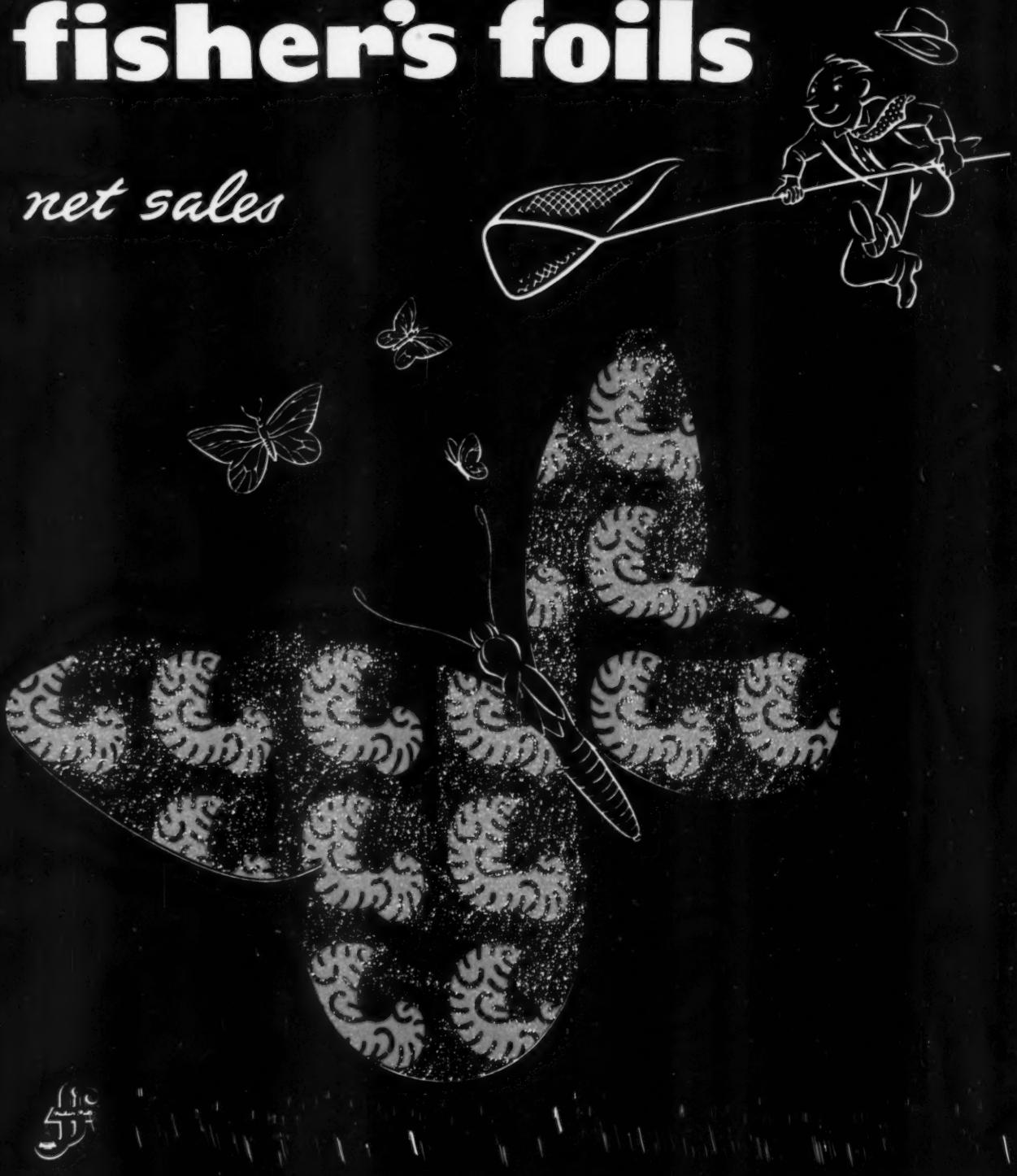
Champlain



Champlain manufactures a complete line of rotogravure, aniline, rotary letterpress and allied equipment for packaging and specialty printing.

fisher's foils

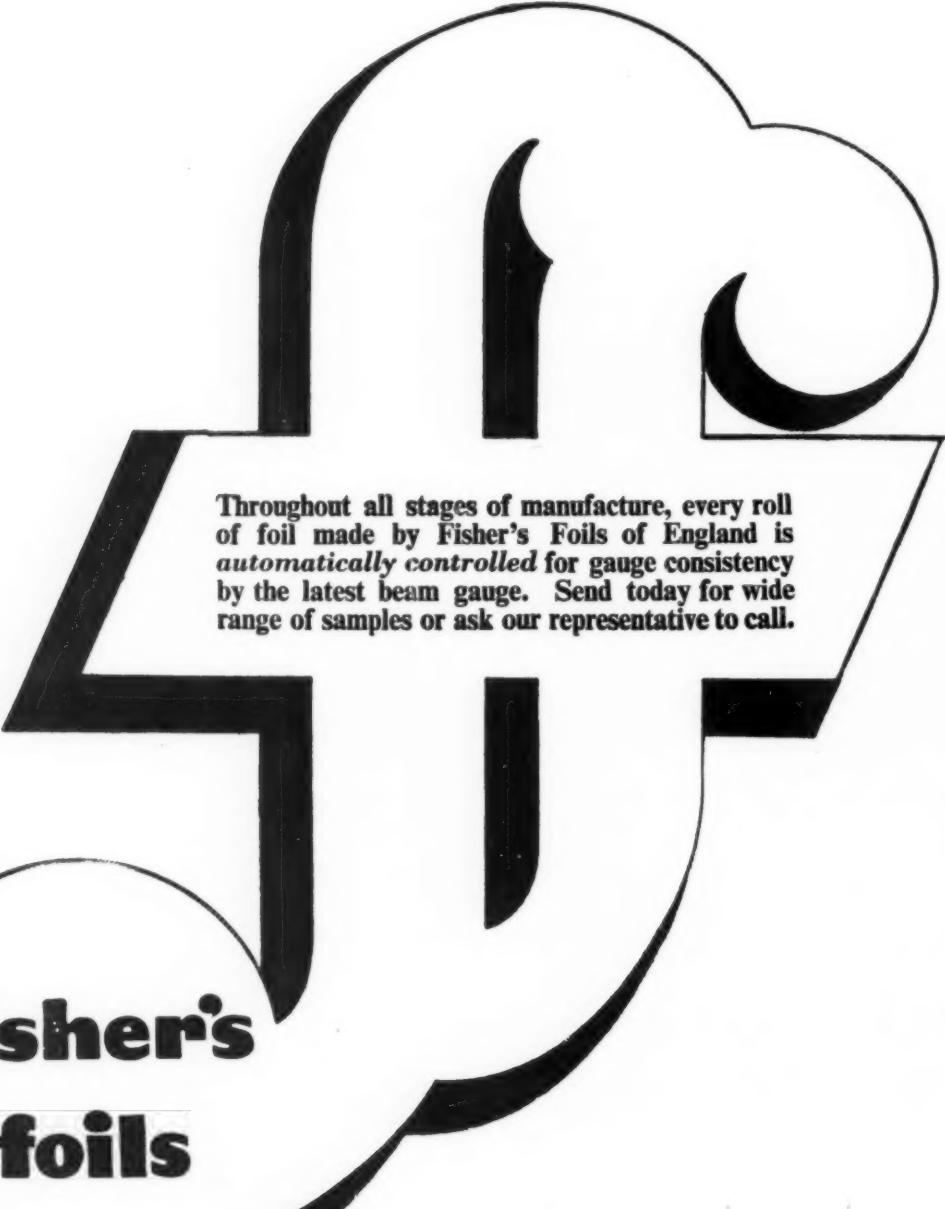
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Clay Coated Boxboard is the Basis for America's Smartest Cosmetic Cartons

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Reggie invites you to investigate this most recent coating blend, as well as our standard line of Ridgelo POLYEON, which combines the outstanding properties of Polyethylene with selected materials, to help produce superior packaging for your customers.



Write today for your samples of POLY-WAX and POLYEON Barrier Boards, Food Boards, Kraft, Foil, Non-woven Cloth, Boxboard, Tag and other sales-building combinations for protective packaging.

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10
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the ink stays on—
it won't rub off



VISQUEEN is stronger—won't split, crack, shatter or run.

VISQUEEN is more uniform—yields more units per pound of film.

VISQUEEN won't block—keeps packaging lines at top speed.

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Send me names of converters of **VISQUEEN** film serving my area.

Name _____

Company _____ Address _____

City _____ Zone _____ State _____

Dear

New

Plant?...

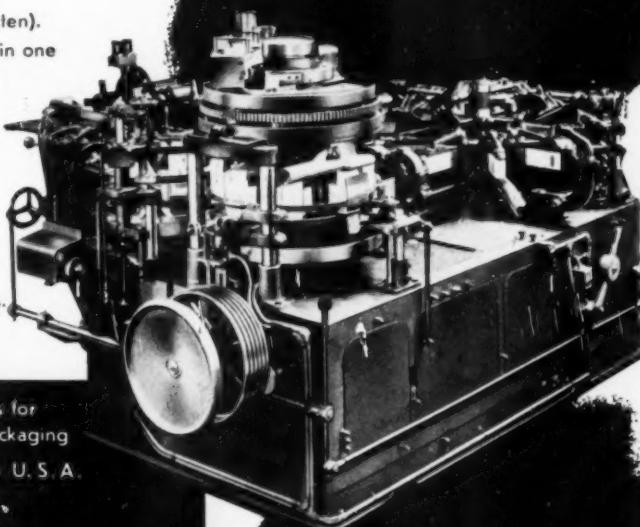
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is
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Here's a revolutionary conception of packaging machinery-**HESSER** machines are next-to-noiseless and almost completely free of vibration! You'll have to see it to believe it... we urge you to come and see (and listen). Think of it - plants with ten and more big machines in one room find that ordinary conversation can be carried on without interference. Employee morale goes way UP... work is done better, faster.

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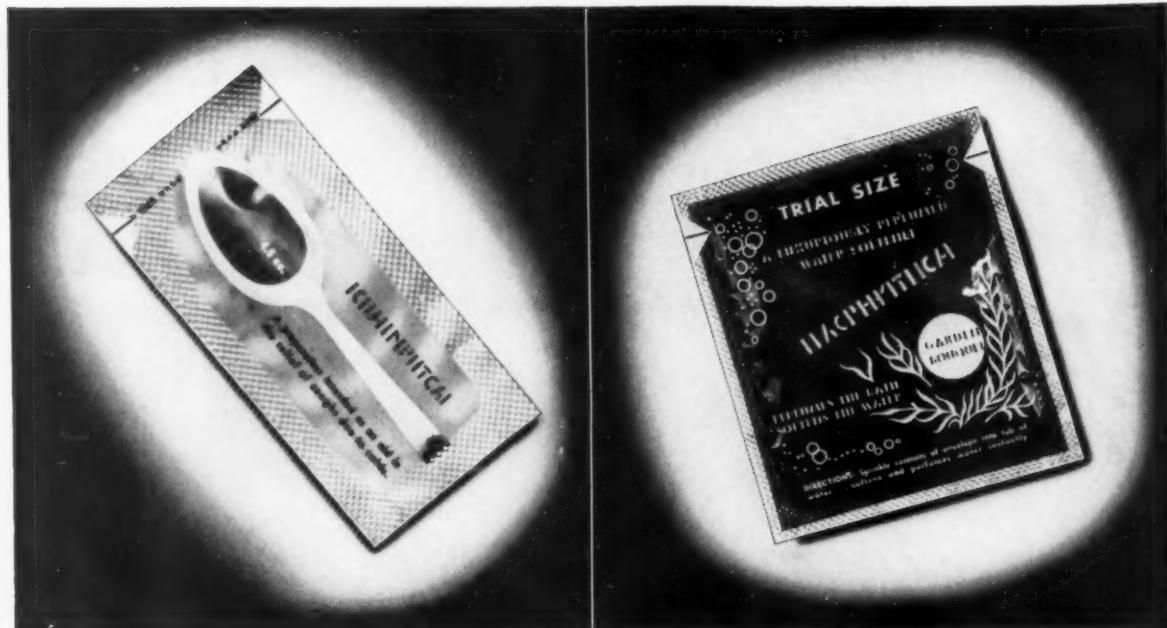
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FR. HESSER Co., Ltd.

Stutt

Germany

IMPROVE YOUR SALES WITHOUT INCREASING YOUR COSTS



Powders and creams especially demand brilliant, hard-hitting merchandising. Consumer preference hangs on a thread . . . attractiveness, convenience and package size can spell out the difference.

You can provide your products with these vital sales aids through the use of the Ivers-Lee packaging facilities. For then you will be giving them the unique advantages of exclusive I-L features—I-L Super-Sealtite* with Feather-Lite Tear and Double Diamond Tear Notches*.

You need buy no packaging machinery for this—you don't have to expand your plant—you make no capital investment.

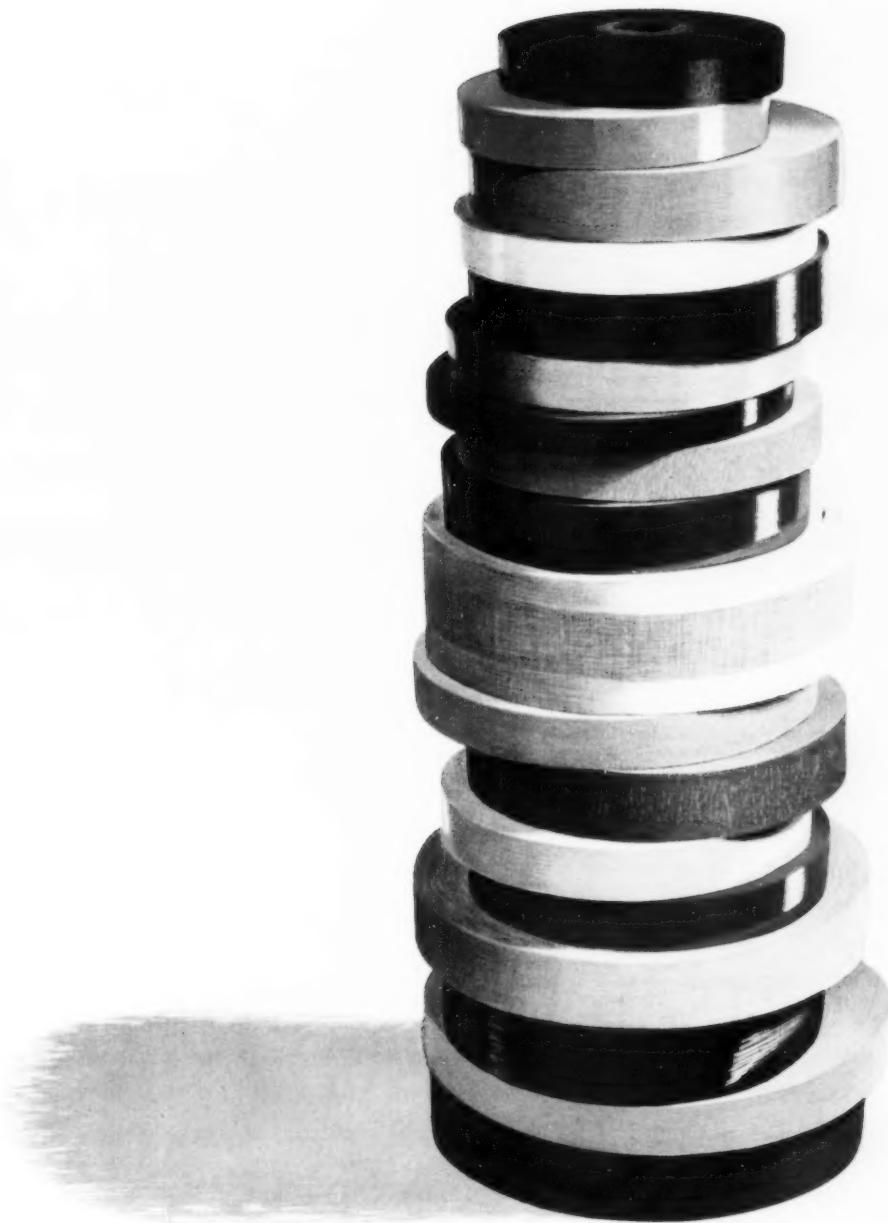
At Ivers-Lee complete unit-packaging services are at your disposal. Your package can be designed to fit your product. The quantity can be large or small, from 5,000 to 500,000,000—for sampling or standard sale use. You send us your product in bulk, we return it to you packaged and ready for shipment.

Get your I-L Super-Sealtite samples and details of the complete I-L Service. You will receive them promptly and without obligation.



I-L SUPER-SEALTITE—The Package That Never Stops Selling

*Pats. and Pats. Pending



whatever the job ...

SELF-STICKING
PERMACEL[®] TAPES

In our complete line, there's a self-sticking tape for every job.

write Permacel Tape Corporation, New Brunswick, N. J.



**TUBE YOUR FOODS
—INCREASE
YOUR SALES**

Arenco Fillers meet all requirements
for sterile food packaging

American consumers, long educated to using collapsible tubes, are eagerly snatching up *food in tubes* in test markets all over the country. Now tube technology has developed tubes fit for even the most sensitive food products . . . opening new sales and marketing opportunities for alert food packagers.

Rapid-fire, sterile Arenco tube fillers meet the large demand of the food industry for filled tubes. Filling speeds range up to 55 tubes per minute. A single pump is used for both metering and filling . . . insuring an accurate measure with all prod-

ucts. "Give Away" is practically non-existent. Ample passage allows smooth, firm flow of foods without squeezing that might alter consistency or quality . . . to insure the continued sales-success of your product.

All filling components of Arenco tube fillers are of stainless steel, or other resistant materials. They are easily demountable to facilitate complete sterilization. Size changeover while cleaning is completed in just 15 minutes . . . saving you much in time and labor.



Representatives

Complete detailed information on world-famous Arenco tube fillers will be furnished to you upon request.

ARENCO Machine Co.

INCORPORATED

25 West 43rd Street, New York 36, N. Y.

R. P. Anderson Co., 317 Texas Bank Bldg., Dallas 2, Texas
Tom McLay, P. O. Box #14, Port Deposit, Maryland
Packaging Equipment, Inc., 2013 Olive St., St. Louis 3, Missouri
Kruse Packaging Machinery, 5807 W. North Ave., Chicago 39, Ill.
Canada: Richardson Agencies, Ltd., 454 King St. West, Toronto



Invisible coat inside keeps moisture outside

Keeping moisture out . . . the problem's the same with cake mixes, cleansers, and dried soups...whether they're packed in glassine, paper, or foil.

That's the job for an invisible inner coating of BAKELITE Polyethylene extruded on the pouch material. It forms an airtight heat-seal on high-speed machinery, even with the

dustiest contents. It covers pinholes and adds wall strength. Tough and flexible, it holds fast—won't crack or flake off wrappers.

BAKELITE Polyethylene keeps the package looking good on the inside because it won't discolor. It has a smooth, glossy finish that lasts. Odorless and tasteless, won't affect foods. BAKELITE Polyethylene being color-

less, won't affect underprinting—actually enhances it.

Consumers will appreciate the better product that results, even though they don't see the polyethylene coating inside your package. It's a must for stronger, safer, more dependable wrapping all around. Get our free booklet that tells how it works. Write Dept. XO-55.

Data courtesy **Riegel Paper Corp.**, New York 16, N. Y.



BAKELITE
TRADE-MARK

Polyethylene

BAKELITE COMPANY

A Division of
Union Carbide and Carbon Corporation

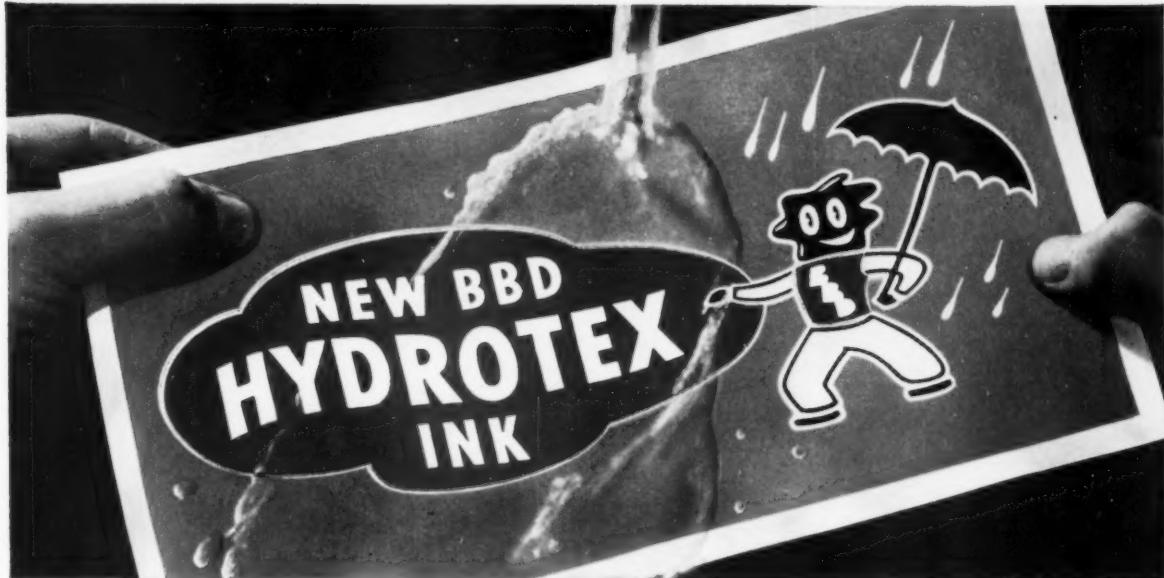
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Automatic filling
of liquids, creams,
and pastes into
neat packages of
thermoplastic foil
at low cost by
new simple process
and machinery.
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please apply to

ANORGANA G.M.B.H.
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Now... a water-base flexographic ink that does not run in water



...for colorful, low-cost, water-fast printing on • TISSUE • BOND
SULPHITE • MACHINE-FINISH • GLASSINE • KRAFT • BOXBOARD

HYDROTEX INK is BBD's newest development... a flexographic ink with the advantages of earlier water-base inks *plus* water-fastness and higher rub-resistance. It is ideal, therefore, for printing all types of packaging and specialty papers that may be exposed to moisture at various stages of their end-use or that may be subject to rough handling and scuffing.

Water-fast HYDROTEX INK dries to a smooth flat finish that is especially desirable on gift and merchandise wraps, wrapping papers, notion and shopping bags, shipping cases, clothing boxes, shelf papers and other specialties. It gives exceptionally color-strong and light-fast results... and prints with unusual cleanliness. Even smallest type reproduces sharply and without fill-in when printed with HYDROTEX.

Although HYDROTEX does not bleed in water after it is printed, water may be used to thin it on the press, and to wash up plates, rollers and fountains. This makes it very economical in use. A 100% pigment ink with a low viscosity at high color concentrations, HYDROTEX combines excellent hiding power with trouble-free press properties. It does not foam in the fountain nor build up on rollers and plates... dries fast and free of tack.

Get more information about BBD HYDROTEX INK — and convincing printed samples — by contacting your nearest BBD office or writing direct to *Bensing Bros. & Deeney, 3301 Hunting Park Avenue, Philadelphia 29, Pa.*

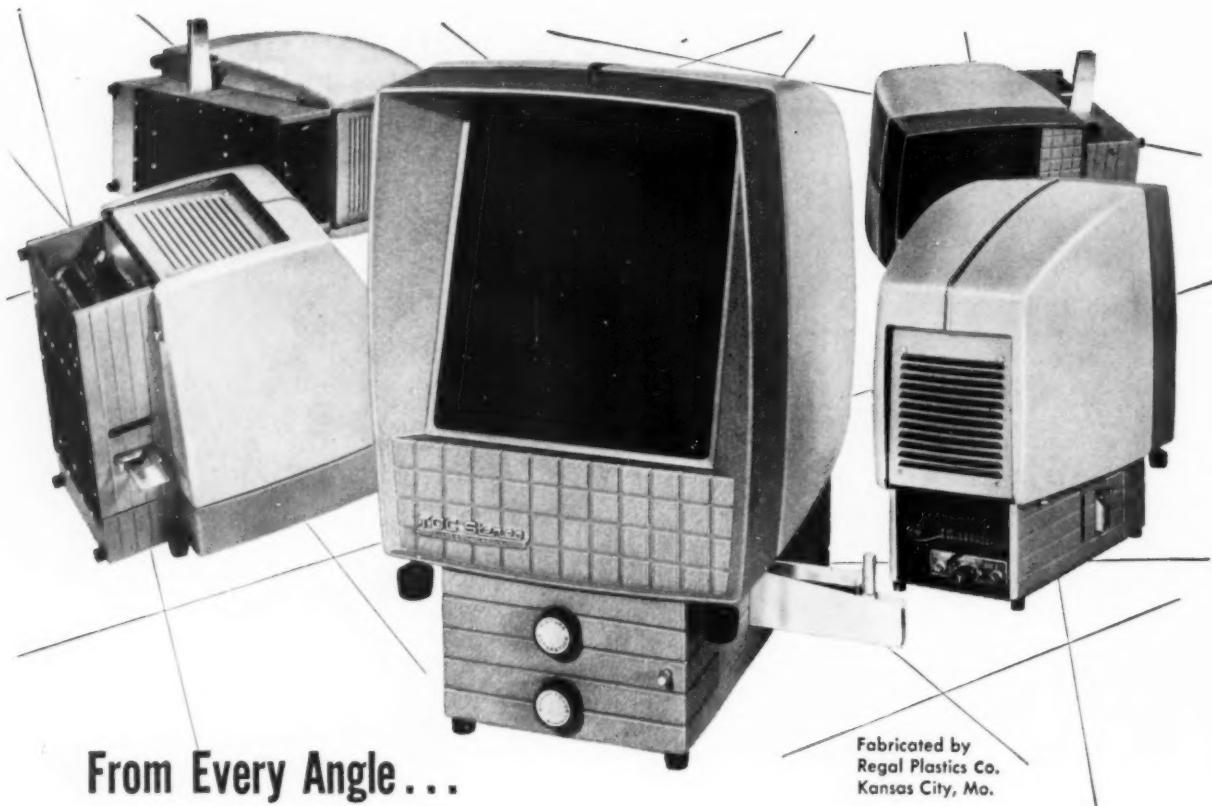
Send coupon for
**FREE HYDROTEX INK
COLOR GUIDE**

Bensing Bros. & Deeney
3301 Hunting Park Avenue
Philadelphia 29, Pa. ★★

Please send free COLOR GUIDE showing
standard colors of HYDROTEX INK printed
on tissue, bleached kraft and natural kraft.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____

Bensing Bros. and Deeney
SALES COMPANY
Flexographic Ink Specialists
PHILADELPHIA • CHICAGO • LOS ANGELES
CAMBRIDGE, MASS. • MONROE, LA.
Export: MC LAURIN-JONES CO., New York
Canada: MANTON BROS., Toronto



From Every Angle . . .

Fabricated by
Regal Plastics Co.,
Kansas City, Mo.

it's a Case for Royalite!

This Designer's Dream Material Solves Another Difficult Manufacturing Problem

The new TDC Stereo Project-Or-View has a U. S. Royalite housing! As with all new product design, the Three Dimension Company of Chicago, leading manufacturer of two-dimensional and stereo slide projection equipment, was confronted with the need for a material that would answer a long list of requirements in designing the housing for this stereo unit.

Economy was one—low initial tool costs and exact, inexpensive prototypes. Strength was another—wearability and invulnerability to breakage and cracking. Beauty still another—a grain finish that could easily be cleaned. TDC design engineers, consulting with Regal Plastics Company of Kansas City, Mo., decided "It's a Case for U. S. Royalite."

This tough thermoplastic more than solved their problems. It answered the above needs per-

fectly and helped in other ways, too. U. S. Royalite allowed sharpness of detail and contours difficult to obtain with other materials. Ease in joining as well as forming was another feature (the housing is made in two pieces and joined in the center by means of an adhesive and a butyrate extrusion). Its durable finish eliminated touching and finishing operations both at the factory and the dealers'.

There were no two ways about it, the difficult case was closed by U. S. Royalite with speed, efficiency and economy! For full information about U. S. Royalite write to the address below.

U.S. ROYALITE
TOUGH PLASTIC PRODUCTS

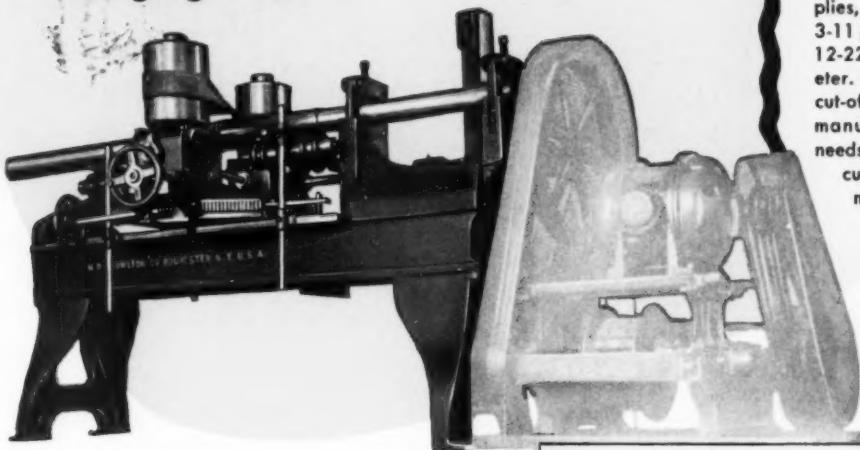


UNITED STATES RUBBER COMPANY
ROCKEFELLER CENTER • NEW YORK

SPIRAL WOUND PAPER TUBE CONTAINERS...

FIRST CHOICE OF INDUSTRY

**for Low Cost-Durable-Protective
Packaging Units**



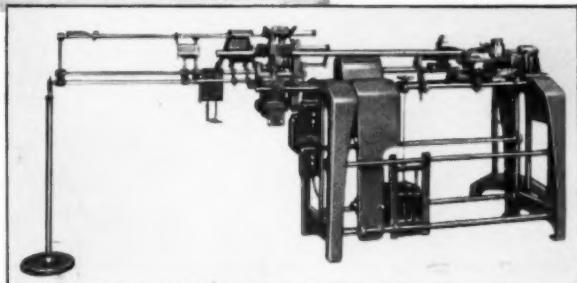
Industries that have used Spiral Wound Paper Tubes for cylindrical shaped containers have cut their production and package costs. Adaptable for a wide variety of purposes, they can be coated or impregnated, inside or out, to eliminate effects of moisture, vermin and water damage.

In fact, Spiral Wound Paper Tube containers have proved they have greater sales, display and shipping value.

Facts can be supplied by our representative that will illustrate the economy and efficiency of Spiral Wound Tube packages. Write or call the nearest Knowlton office.

NO. 4 SPIRAL TUBE WINDER

Winds paper tubes from $\frac{3}{4}$ " minimum diameter up to the following diameters according to number of plies: 2-5 plies, up to 10" diameter; 3-11 plies, up to 8" diameter; 12-22 plies, up to 6" diameter. Can be furnished with cut-offs and glue stands to fit manufacturer's particular needs. Optional machines for cutting tubes in single or multiple lengths, rough or finished cores, or cutting light and heavy side walls up to $\frac{1}{2}$ " thickness.



NO. 77 SPIRAL TUBE WINDER AND CUT-OFF

Winds paper tubes from 2 to 5 plies and from $\frac{1}{4}$ " minimum to 1" maximum in diameter.

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627 Massachusetts Ave.
(CAMBRIDGE)

Knowlton
M. D.
COMPANY

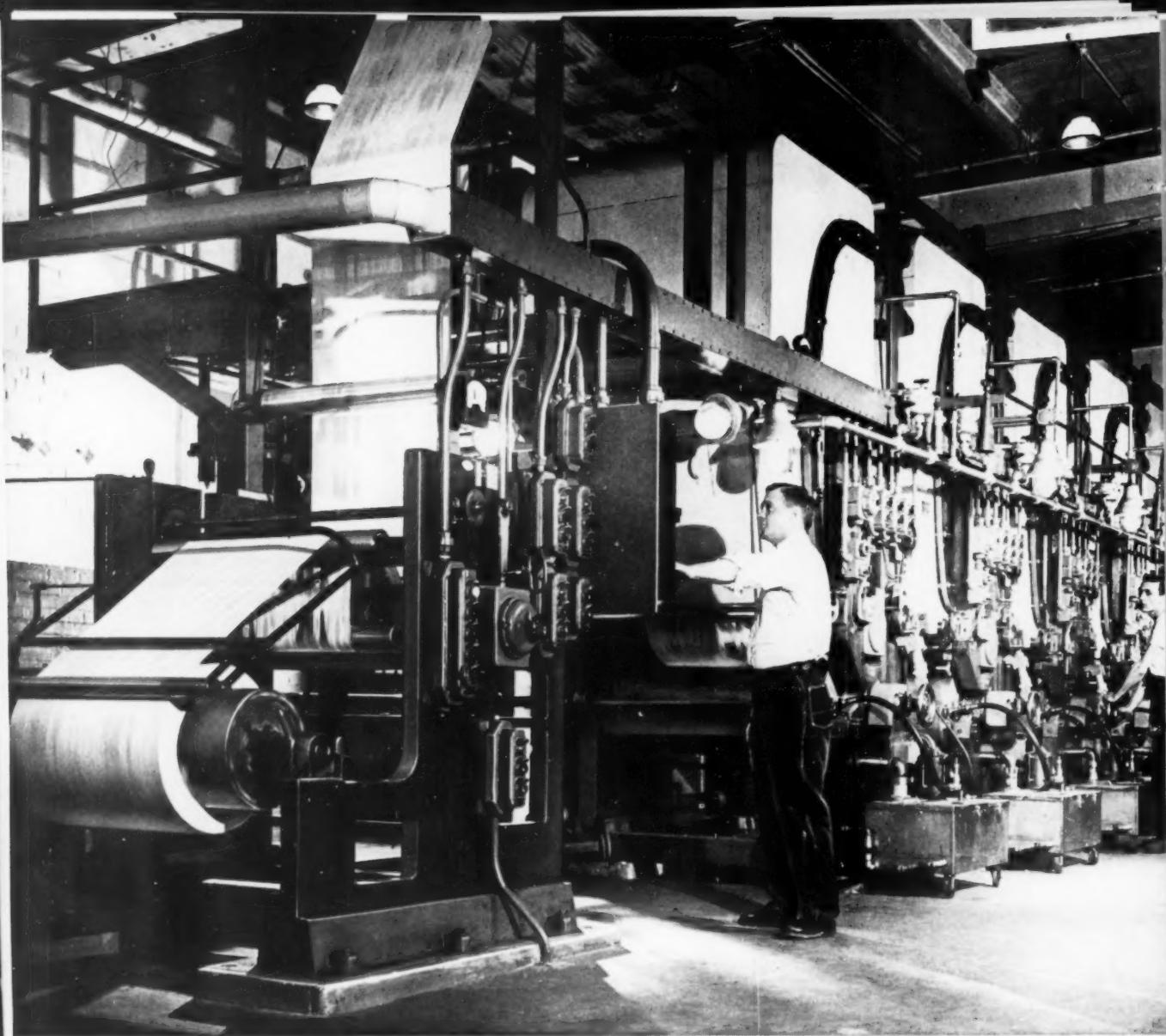
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45-53 Beaver St.

CHICAGO
9 S. Clinton St.

TORONTO, CAN.
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H. W. BRINTNALL CO.
Los Angeles, San Francisco

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Complete Accessibility of the Kidder gravure press is one of many advancements that make it easier for your operators to deliver the top-quality results you want.

Kidder gravure has earned its leadership

Large Converter Writes:

"I am especially pleased with the wonderful workmanship . . . You are to be highly complimented on an exceptionally fine job of engineering . . . This press has everything our pressmen have been asking for."

Speed — 1,000 f.p.m. — in perfect register — fully dried — accurately rewound.

Quality — A Kidder Gravure

Press prints the *entire etch* — gives an exact reproduction of the original.

Economy — Revolutionary doctor blade control doubles cylinder life — controlled inking and drying reduces solvent loss.

Ask us for the whole story on how the Kidder Gravure will print your product at the lowest overall cost . . . Kidder Press Company, Inc., Dover, N. H.



Kidder

Letterpress, Flexographic
and Gravure Presses
Slitters and Rewinders

MAKE THIS "ONE SWEEP" TEST YOURSELF!

See how **BLUE RIBBON** Gummed Tape
Seals Faster . . . the first time down!



Stop-action photo proves Blue Ribbon seals with just one fast sweep of your packer's hands. Tests show an 18" carton center-strip is perma-sealed in 1.4 seconds. Proof positive of Blue Ribbon's instant action.

Try this test yourself. We'll guarantee Blue Ribbon Super Standard sealing tape will close cartons and packages as fast as your operator's hands can move . . . and they are perma-sealed, ready to take the toughest stresses of all-condition shipping.

Figure the increased production you will get with a tape that goes down faster—users* report as much as 25% greater output . . .

stays down to last—with no rerubbing or resealing. Figure the savings you'll make, too.

You count on consistent good quality with Blue Ribbon . . . insured by 'pines to paper' control of the world's finest kraft . . . you get the same fine tape as you did on your last order—your next order—or a hundred orders after that!

*Names on Request

ANOTHER PRODUCT BY

Hudson

Blue Ribbon Super Standard Gummed Tape is another Hudson Quality Product . . . a member of the renowned family of Hudson Paper Napkins, Tissues, Towels, Orange Core Gummed Tape, Kraft Wrapping Papers, Grocery and Heavy Duty Bags, Multiwall Sacks and Laminated Wrapping Papers.



Super Standard Tape

Napkins

Gummed Tape

Kraft Wrapping Paper

Grocery Bags

Multiwall Sacks

Prove it yourself!

Send us your name on your company letterhead. We'll give you a free trial roll of Blue Ribbon tape, and a copy of "How To Cut Costs In Your Shipping Room."

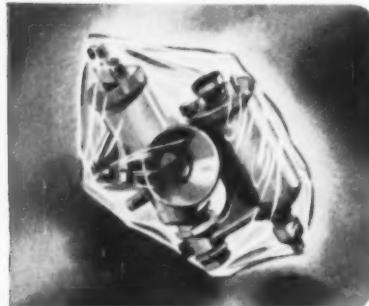
HUDSON PULP & PAPER CORP.

Dept. MP6-A, 477 Madison Ave.
New York 22, N. Y.

**FLEXIBLE
MOISTURE-PROOF
TRANSPARENT**

Dio *thene*
(POLYETHYLENE)

OFFERS YOU



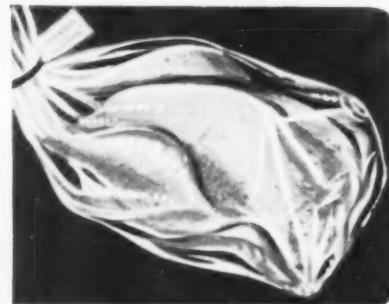
**WAREHOUSE
TOUGHNESS**

Tough and flexible, DIOthene is ideal for packing goods such as instruments, machinery and textiles. Because it stretches it is neither easily burst nor punctured, and small cuts do not tear across the sheets.



**ALL-HAZARD
PROTECTION**

Your goods are safe when packed in DIOthene for it is unaffected by acids and alkalis; insoluble in all known solvents at room temperature; liquid proof; powder proof; moisture-vapour proof; virtually non-inflammable. DIOthene drum liners are ideal for packing chemicals.



**CLINICAL
CLEANLINESS**

DIOthene is sterile and non-toxic, and cannot be improved upon as a food packing. NO plasticiser is used in its manufacture and the purest products can be wrapped indefinitely with no fear of contamination from within or without. Frost-resisting, DIOthene remains flexible at sub-zero temperatures.

We can offer you DIOthene bags and DIOthene drum liners to required sizes and thicknesses, flat and shaped, for quick delivery. Our special printing on DIOthene in multicolour—including gold—guarantees excellent ink adhesion. We can add the qualities of DIOthene to paper, board, foils, or fabrics by coating or lamination—*infinite possibilities!*

We make, convert, and print DIOthene all under one roof. Send us your enquiries: ask for more details. Write or phone today.

FLEXIBLE PACKAGING LIMITED

(Dept. 13), HALIFAX HOUSE, 51-55 STRAND, LONDON, W.C.2, ENGLAND Phone: TRAFalgar 4311 Grams: Transpaper, Rand, London
AGENTS THROUGHOUT THE WORLD

TH.1



► SALES APPEAL

Transparent, and with a rich silky sheen, DIOthene has strength, eye-appeal and touch-appeal. Your sales mount when you wrap your product in DIOthene.

**► PROFITABLE
ECONOMY**

Rigid, heavy, returnable containers are old-fashioned and expensive, costing perhaps 2/- each. The DIOthene equivalent—featherweight and expendable—costs about 2d. The saving in space and weight alone can halve your freight charges. No invoicing of empties, either. Cut costs—pack in DIOthene!



**PUT IT
IN A**



A WORLD OF SIZES AND TYPES



**when you choose the world's largest manufacturer
of cylindrical plastic containers**

You name the exact size and type plastic container you need to package your product. *We'll supply it!* Chances are, in the tremendous variety of containers we now produce, there is one that will fit your particular needs perfectly. If not, simply supply us with your specifications and we'll produce special sizes for you.

Clearsite Transparent Plastic Containers are tailor-made for your product in many other ways. There are a wide variety of closures available, and your lettering, design or trade mark can be permanently printed in any color right on the containers.

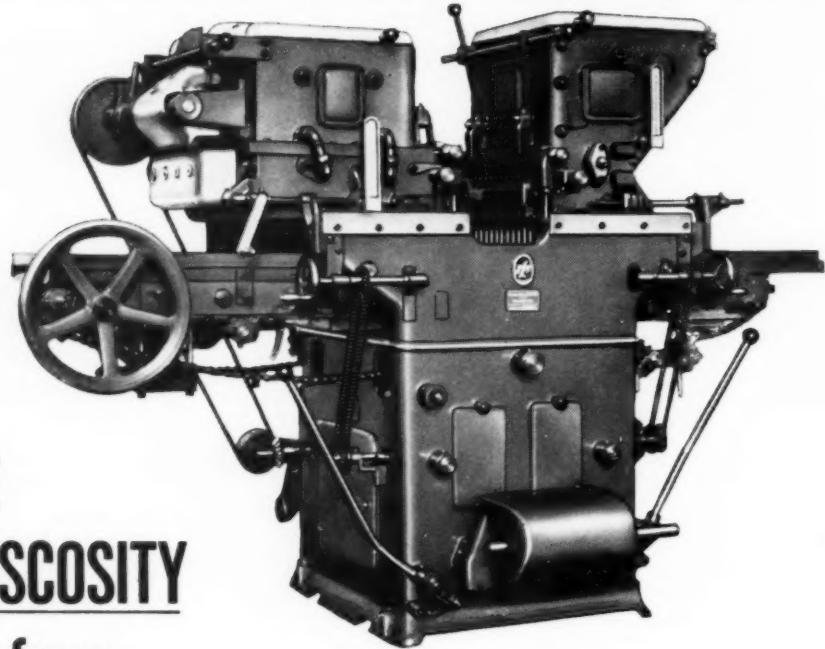
Besides variety and versatility, you enjoy many other advantages when you use Clearsite. They're moisture-tight, dust-proof, and gleaming bright with complete transparency. They're feather-light, only about $\frac{1}{5}$ the weight of glass.

Write for free samples and descriptive literature today!

CELLUPLASTIC CORPORATION

General Offices: 50 Avenue L, Newark 5, N. J.





**Deposit
ANY VISCOSITY
Center from
LIQUID CHOCOLATE to stiff TOFFEE
MASSES on ONE MACHINE**

The LOESCH DOUBLE DEPOSITOR does practically any depositing job you want. It handles pasty, semi-firm, or liquid chocolates; any kind of cream; fruit-caramel and even toffee masses. And that's not all—

It controls the weight of deposits accurately because it's adjustable to very fine limits.

Up to 6 different centers can be deposited at one time using synchronized multiple installations.

A swift change of nozzle bars enables you to *switch from one type of mold to another within minutes*, while the pumping system remains untouched.

The machine is fully automatic and can produce up to 120,000 pieces per hour.

Most of all, however, the Loesch Double Depositor features both heavy duty construction and precision engineering—a combination which enables it to stay on the job in *continuous operation*, year after year, with little or no down time.

Loesch also manufactures Choco-Shell Plants.

GEVEKE & COMPANY, INC.
25 BROADWAY, NEW YORK 4, N.Y.

MANUFACTURERS' REPRESENTATIVES • SPECIALIZED MACHINERY AND EQUIPMENT • FOUNDED AMSTERDAM 1876 •

NOW

CANCO SAVES YOU UP TO 35% on pressure packages!



Canco's 4-way economy offers you these outstanding advantages:

1. **Lower initial cost**—Canco containers themselves actually cost you less because they are mass-produced on standard high-speed can manufacturing equipment.
2. **More economical to use**—container tops can be assembled directly to valves. No expensive extra parts are required in your packaging operation.
3. **Canco works directly** with valve manufacturers and contract loaders to develop the most economical and efficient package for your product.
4. **Canco's strategically located** facilities, throughout the United States, assure prompt, efficient service in all phases of pressure packaging.

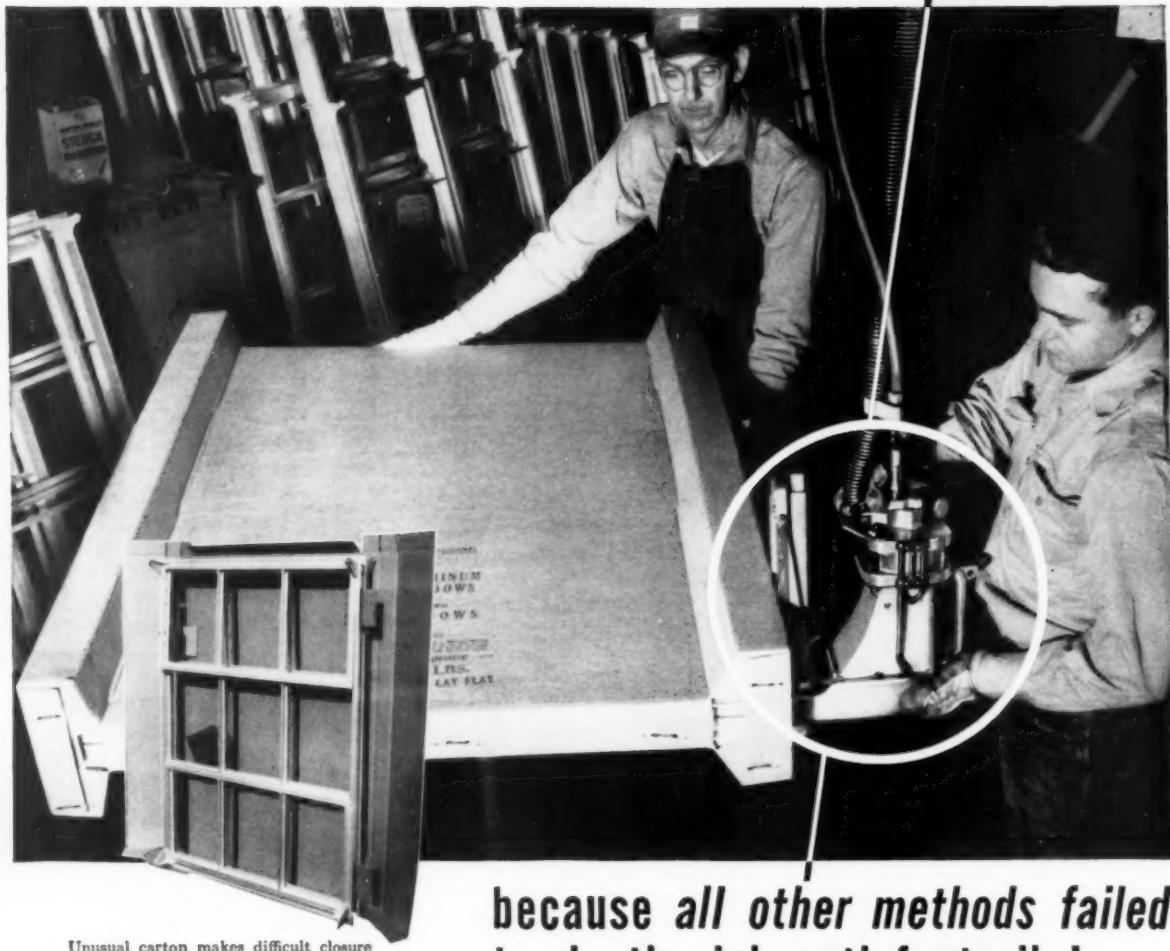


Whatever your product—whether it sprays, mists or foams—Canco's pressure containers, designed to accommodate a wide variety of valves, can save you up to 35% on your package costs!

**AMERICAN CAN
COMPANY**

New York, Chicago, San Francisco; Hamilton, Canada

REYNOLDS METALS COMPANY INSTALLS *International Staplers*



Unusual carton makes difficult closure problem for Reynolds Metals. Solution—installation of International Stapler.

because all other methods failed to do the job satisfactorily!

Reynolds Metals, Louisville, Ky., manufacture a large variety of rust proof, corrosion resistant aluminum windows that require very unusual corrugated cartons. These cartons posed a difficult closing problem, and several methods were tried with unsatisfactory results. International equipment solved this problem for Reynolds, and the reasons given by Mr. Warner Skaggs, Plant Superintendent are typical of the reasons why it will pay you to investigate International Staplers.

"We of Reynolds Metals Window Division use International Stapling Machines because:

1. they're perfect for our packing operations
2. they are easy to install
3. in the event of changes or modifications, they are easily adapted for different and various packaging operations
4. they operate quickly and efficiently

5. they feed staples automatically
6. they do not tire the worker
7. maintenance costs are low
8. hold fast, even when shipped across the country
9. all other methods of closing, such as tape and glue, have failed to do the job to our satisfaction."

Remember, International Staplers close tops and bottoms of cartons simultaneously—after the cartons are filled. Standard units will close from a few cartons per hour to a thousand per hour. Closures are secure, attractive, and pilfer-proof. The staples do not hide ad copy on the carton. There are more than twenty models to fit your exact packaging needs.

It will pay you to investigate International Staplers. Many installations have paid for themselves in a few months. Contact your nearest International Dealer or write for full details on how to reduce your packaging costs.

the Royal Family of Packaging
International Staple & Machine Company



International Staplers

806 East Herrin Street, Herrin, Illinois



... INDUSTRY'S MOST RELIABLE ELECTRONIC COUNTER

Model D2144

Double Decitron with 12 place tubes,
counts gross lots as one unit on totalizer.



Model P2

Counts in any desired total 1-100.
Other models 1-1,000,000



Model P4W

Desired counts by units 1-10,000
and wired-in warning system.

New, highly perfected Decitron electronic counters cover every counting need . . . from pills to case lots—in any quantity—at amazing speeds (up to 6000 units per second.)

Preset counters afford desired total counts i.e. dozens, fiftys, gross lots, etc. Lineal footage counters totalize production of paper, cloth, etc. Warning systems and other circuits can be energized by these counters if desired.

Write today—we want your counting problem.



ELECTRONIC PRODUCTS DIVISION
POST MACHINERY COMPANY
Beverly, Massachusetts

NOBODY HAS AS MUCH EXPERIENCE AT MOLDING POLYETHYLENE AS

TUPPER!

The logical molder for you to consult regarding that product or package of yours which is to be made of polyethylene is Tupper. Tupper has done more than any other molder to make molded polyethylene a practical reality.

Aside from having designed, patented, and promoted successful seals, closures, and dispensers for polyethylene containers, the Tupper Corporation has vast experience in every phase of polyethylene packaging and polyethylene injection molding. This experience will be of major importance in improving your product, in reducing your costs, when Tupper goes to work for you.

Tupper's combination of experience, technical ingenuity, and the most modern equipment is at your service for the custom molding of your product in polyethylene. You can do no better than the best ... and the best at molding polyethylene is Tupper!

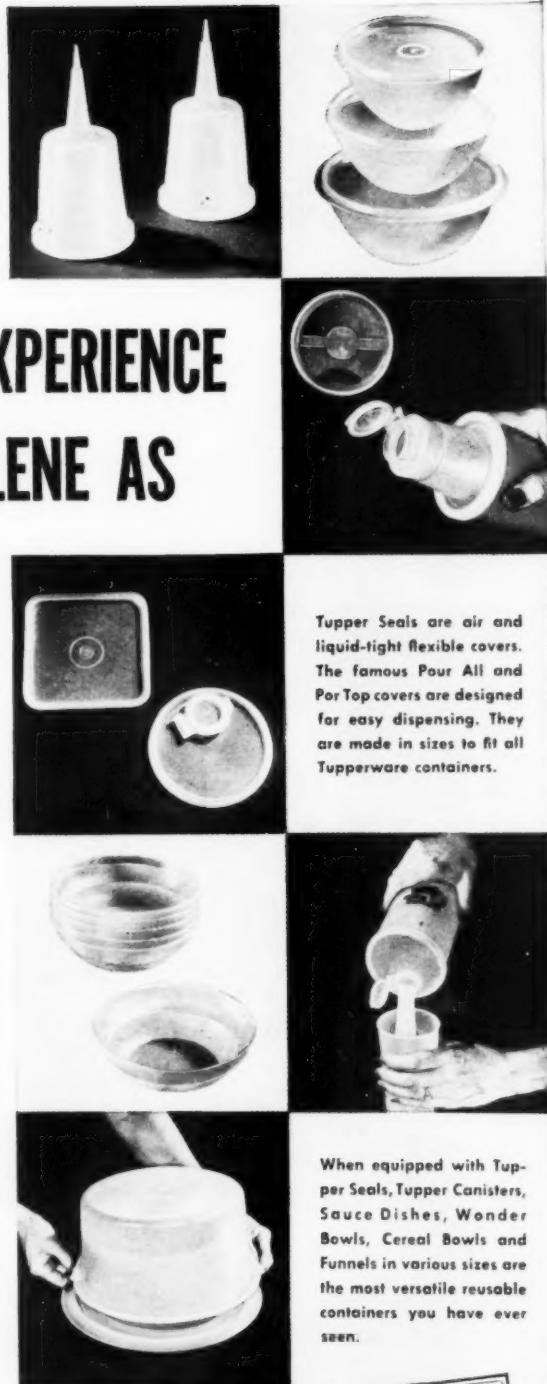
TUPPER!
TRADE MARK

TUPPER CORPORATION

Manufacturers of — CONSUMER, INDUSTRIAL,
PACKAGING AND SCIENTIFIC PRODUCTS

Factories, Laboratories and Sales Offices:
Farnumsville, Mass., Blackstone, Mass.
Orlando, Fla., Montreal, P.Q.
Showrooms: 225 Fifth Ave., N. Y. C.

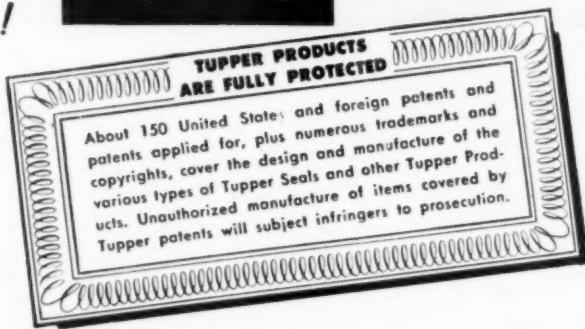
Address all communications to: Dept. MP-6



Tupper Seals are air and liquid-tight flexible covers. The famous Pour All and Pour Top covers are designed for easy dispensing. They are made in sizes to fit all Tupperware containers.



When equipped with Tupper Seals, Tupper Canisters, Sauce Dishes, Wonder Bowls, Cereal Bowls and Funnels in various sizes are the most versatile reusable containers you have ever seen.



PURE ALUMINUM

FOL'S

by

JOHNSTON

18

...the SALES DYNAMIC

in

MODERN
PACKAGING

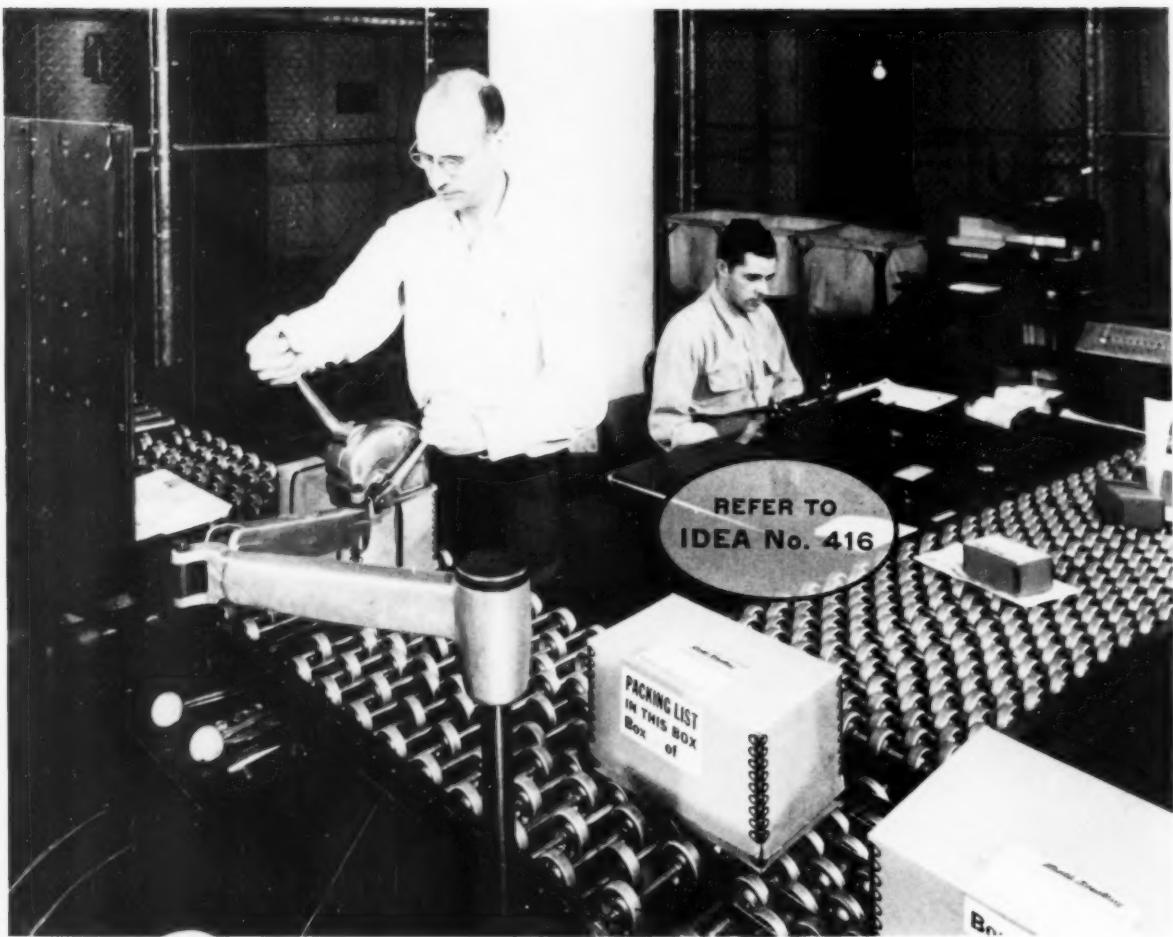
What are YOUR Needs?

SINCE 1889

JOHNSTON FOL' MANUFACTURING CO.

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7446 VINE STREET CINCINNATI, OHIO



AIM* for FASTER, EASIER Packaging with Acme Steel Strapping Ideas



ask your
***Acme Idea Man**
to help solve your
problems

R. F. Henkel,
Pittsburgh, was the
Acme Idea Man
who helped work
out this modern
packaging system.

A 400 per cent increase in packaging capacity! That's what happened at Firth Sterling Inc., when a modern packaging system with a centralized Acme Steel Strapping station was installed. Today this Pittsburgh tool and die manufacturer's fast, efficient packaging system maintains the flow of shipments weighing from 50 to 150 pounds—at lower cost.

The Acme Steel Strapping method (Idea No. 416) used here consists of an Acme Steel strapper on a counter-balanced arm attached to a portable tool mount. The strapping tool is easily raised and lowered to accommodate the varying carton sizes.

Ask your Acme Idea Man to demonstrate how Acme Steel Strapping methods like this can cut packaging costs in your plant. Or, write Acme Steel Products Division, Dept. GG-64, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

AIM For Safe, Lower-Cost Shipping





HOW *dial* SOAP

MAKES MERCHANTISING MAGIC

WITH NEW HEAT SEAL BANDS

A special sale offering 3 or 4 bars of soap poses a problem. Merchandising units can be broken up and bars sold individually. Needed: a way to bind the bars together . . . *firmly* and *attractively*.

A new heat seal band with extra-strong coating was developed for DIAL soap by Marathon's General Packaging Department. The band adheres so tightly to each bar that wrappers will be torn if any attempt is made to separate the units. And the coated stock carries an eye-catching, sales-stimulating design. Conventional heat seal wrapping machines are used.

Solving such "out of the ordinary" problems . . . working with all types of materials . . . is the job of Marathon's General Packaging Department. Roll-style uncoated labels, dust-resistant overwraps, linerless sift-proof cartons, package liners that prevent loss of moisture—are just a few developments produced by this experienced group.

Use the specialized resources of Marathon's General Packaging Department to solve your packaging problems. Write Marathon Corporation, Dept. 700, Menasha, Wisconsin.

The packaging research, engineering development and printing know-how that have made Marathon an outstanding leader in food packaging are applied to each individual problem. Paper, paperboard, foils, films, special coatings—and combinations of these materials—are used to produce the right package for each job.



MARATHON

STYL BRANDS • PROTECT PRODUCTS • SPEED PRODUCTION

PACKAGES



First: It handles and prints better on your presses and helps *you* sell more bags.

Second: *Your customer* can more readily sell the merchant his coffee, flour, rice, meal, dog-food in an extra-strong bag printed on high-brightness NIBROC WHITE.

Third: The product in a NIBROC WHITE bag is the one that will catch the eye of the housewife in the modern supermarket—and its strength will carry it home safely!

Use NIBROC WHITE and pass on some of these advantages to *your customer*—and on to *his* customer as well. Write to our Technical Service Division, Dept. DR-6, Boston.



COMPANY, Berlin, New Hampshire
CORPORATION, La Tuque, Quebec

General Sales Offices: 150 Causeway Street, Boston 14, Mass.
Dominion Square Building, Montreal, Quebec

SOLKA AND CELLATE PULPS • SOLKA-FLOC • NIBROC PAPERS • NIBROC TOWELS
NIBROC KOWTOWLS • NIBROC TOILET TISSUE • BERMICO SEWER PIPE AND CONDUIT
ONCO INSOLES • CHEMICALS



Three essentials make packaging ideas bear fruit

Hard-selling packages that can lift a product out of the commodity class offer the consumer something extra — like the convenience of ready-to-eat, individually wrapped apples. Slanting a package to the likes and buying habits of modern shoppers is *one* of the three essentials of a successful packaging idea . . . along with choice of the right film and efficient pack-

age construction.

You can count on Du Pont for help in developing an up-to-date package that meets *all* these requirements. Get in touch with your Du Pont representative. For information on bags or printed materials get in touch with your converter of Du Pont packaging films. E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del.

Why Du Pont is packaging-film headquarters

1. **WIDE VARIETY OF PACKAGING FILMS** scientifically tailored to meet the needs of varied products and packages.
2. **TECHNICAL** assistance to help you plan the most practical and efficient construction of your package.
3. **MERCHANDISING** help through continuing nation-wide surveys of buying habits, to keep your package up to date.
4. **NATIONAL ADVERTISING** to continually strengthen consumer preference for your packaged products.

DU PONT PACKAGING FILMS

CELLOPHANE
POLYETHYLENE • ACETATE



Better Things for Better Living
... through Chemistry





8 miles up and everything okay!

Hairflex Packaging, used by Jack & Heintz, plays an important role in keeping these B-47's in the air!

The aircraft motor generator, shown upper left, is a critical mechanism designed to operate up to 50,000 feet under all conditions. To insure its safe arrival at aircraft assembly plants, Jack & Heintz, Inc., Cleveland, Ohio, manufacturers of *Rotomotive* equipment, prepares this unit for shipment by surrounding it with a protective cushion of HAIRFLEX. This cushion of springy curled hairs locked in rubber is strong, resilient, and can endure the repeated shocks of rough handling.

Jack & Heintz uses HAIRFLEX because of the cushioned protection it affords, and also because of its great flexibility of use. They like the fact that wrap-around pads of HAIRFLEX are readily adaptable in packing several of their products. This solved the problem of storing great amounts of specialized packaging material, and actually cut company packaging costs up to 25%!

HAIRFLEX, which conforms to military packaging specifications, comes in sheet forms of varied density and thickness. Let our engineers help decide which is best for you. If you wish, we will die-cut it specially for your product. Use HAIRFLEX and be sure that your shipments reach your customers in perfect condition.

Mail this coupon today! **ARMOUR AND COMPANY**
North Benton Road, Alliance, Ohio

Please send me:

A Free Sample of Hairflex Booklet—"Pillowed Packaging"
 Pack specifications and cost estimate for my product (description enclosed).

Name _____ Title _____

Firm _____

Address _____

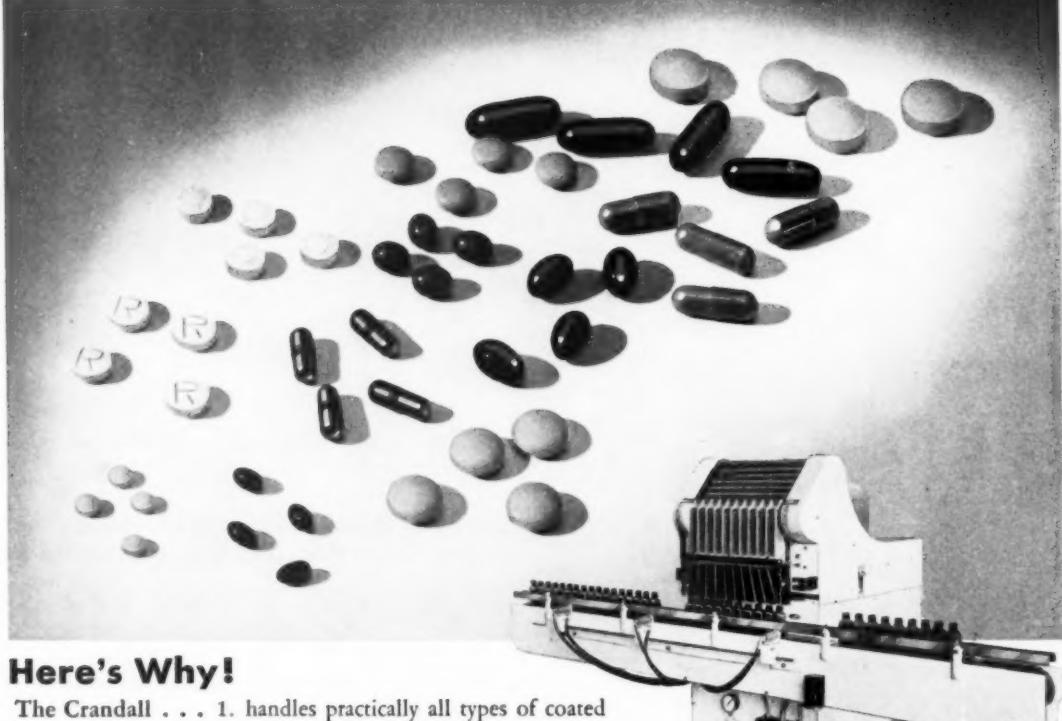
City _____ Zone _____ State _____

M-6

ARMOUR

Curled Hair **North Benton Road, Alliance, Ohio**

**The Fast Automatic Crandall Counter
is IDEAL for Producers of Tablets, Pills or Capsules**



Here's Why!

The Crandall . . .

1. handles practically all types of coated or uncoated tablets, pills and capsules
2. can be equipped for any count
3. handles bottles, cans or cartons
4. runs at speeds up to 60 bottles of 100-count per minute — faster where counts are lower
5. can be equipped for automatic or semi-automatic operation

The original Crandall Tablet Counting Machine is manufactured *only* by **U.S.**

... and here is an important added feature —

The Crandall can handle several different products simultaneously. By dividing the hopper, the Crandall can count several products at the same time. Thus, if you are making small volumes of a variety of products, you can set up the Crandall to suit your exact requirements with a minimum of effort.

Full details are yours for the asking. Write today.

U. S. AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. • CARTONING MACHINERY CORP.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: New York • Chicago



Net and Gross Weighing
Package Forming and Filling
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Wrapping, Box Making

MODERN PACKAGING

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of quality
aluminum
our trade



READY MARK

- QUALITY
- SERVICE
- LEADERSHIP

ALUMINUM FOILS, INC.

SALISBURY

BRANCH

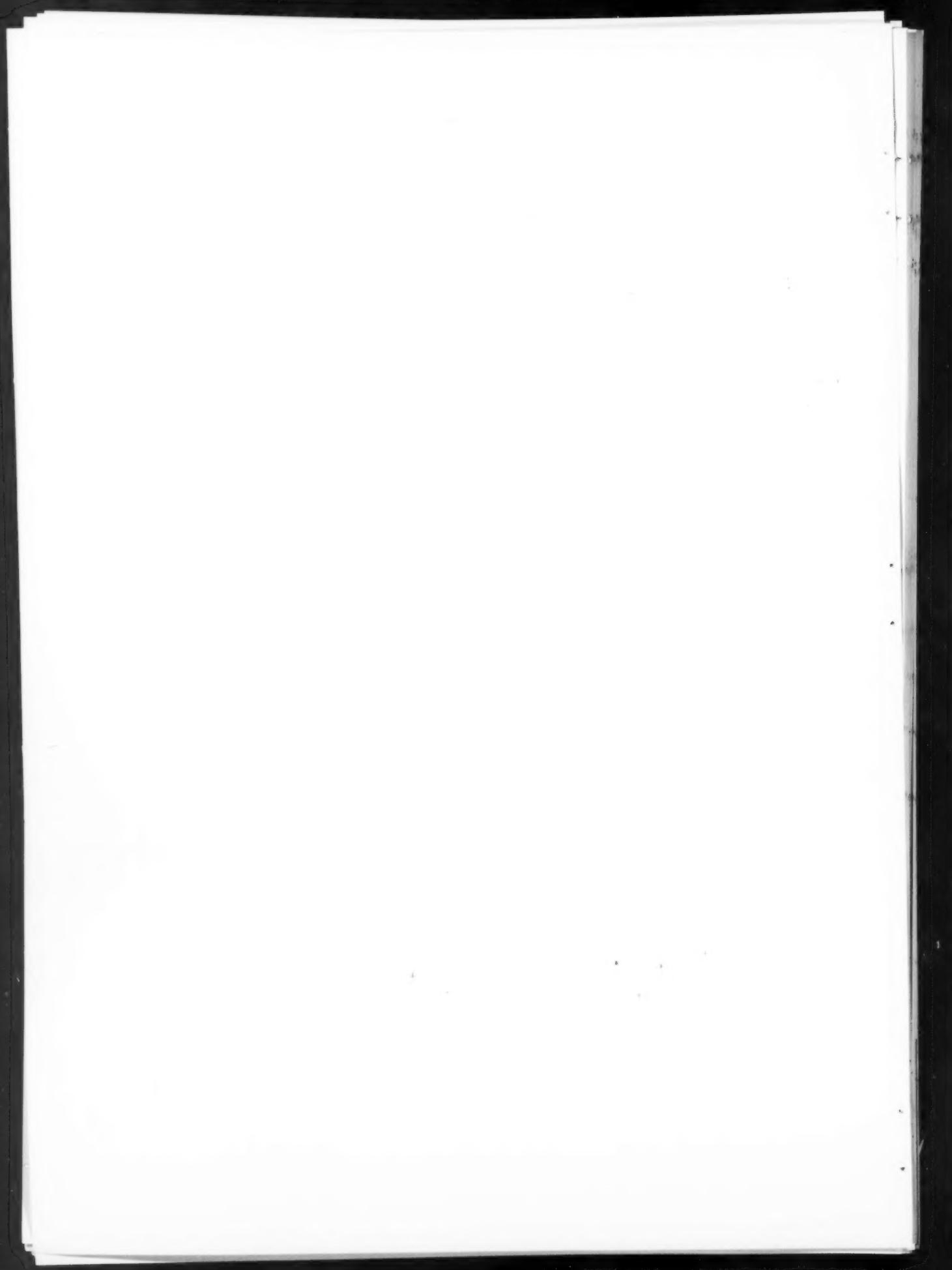
69 WEST

1422

SALISBURY

ROCKWELL

PLANT





Bottle at left, dropped 25 feet onto concrete, illustrates the unusual safety feature of these plastic containers.



New Wheaton bottle showing the plastic wrap cut away.

New Safety Aerosol Bottles of Glass-Lined Plastic

They were developed by Wheaton Plastics Co. to satisfy a long-felt need... their usefulness and beauty will help build sales for your product... their plastic coating makes them safe even if they should break when dropped.

Now, for the first time, you can combine in your product package the matchless spray of aerosol, the shatterproof safety of plastic, and the powerful display appeal of glass. This new Wheaton glass-lined plastic aerosol bottle offers many long-needed practical features... and, in addition, it will give your product an exciting promotional plus.

The sturdy plastic coating gives complete protection. If the bottle should drop and the glass break, the glass will never spatter... for it cannot cut through the cover.

There are many other advantages, too. For example, you always get a true aerosol spray—not a squirt or stream. And there is no corrosion or leakage.

Wide variety of sizes, shapes, colors

These bottles are available in the three stock designs shown in the photographs, or they can be molded to your own special design in sizes

up to 4 oz. You have your choice of transparent, translucent or opaque plastic, the latter two in a full range of colors. We can silk-screen any design in any color on the plastic or the glass itself.

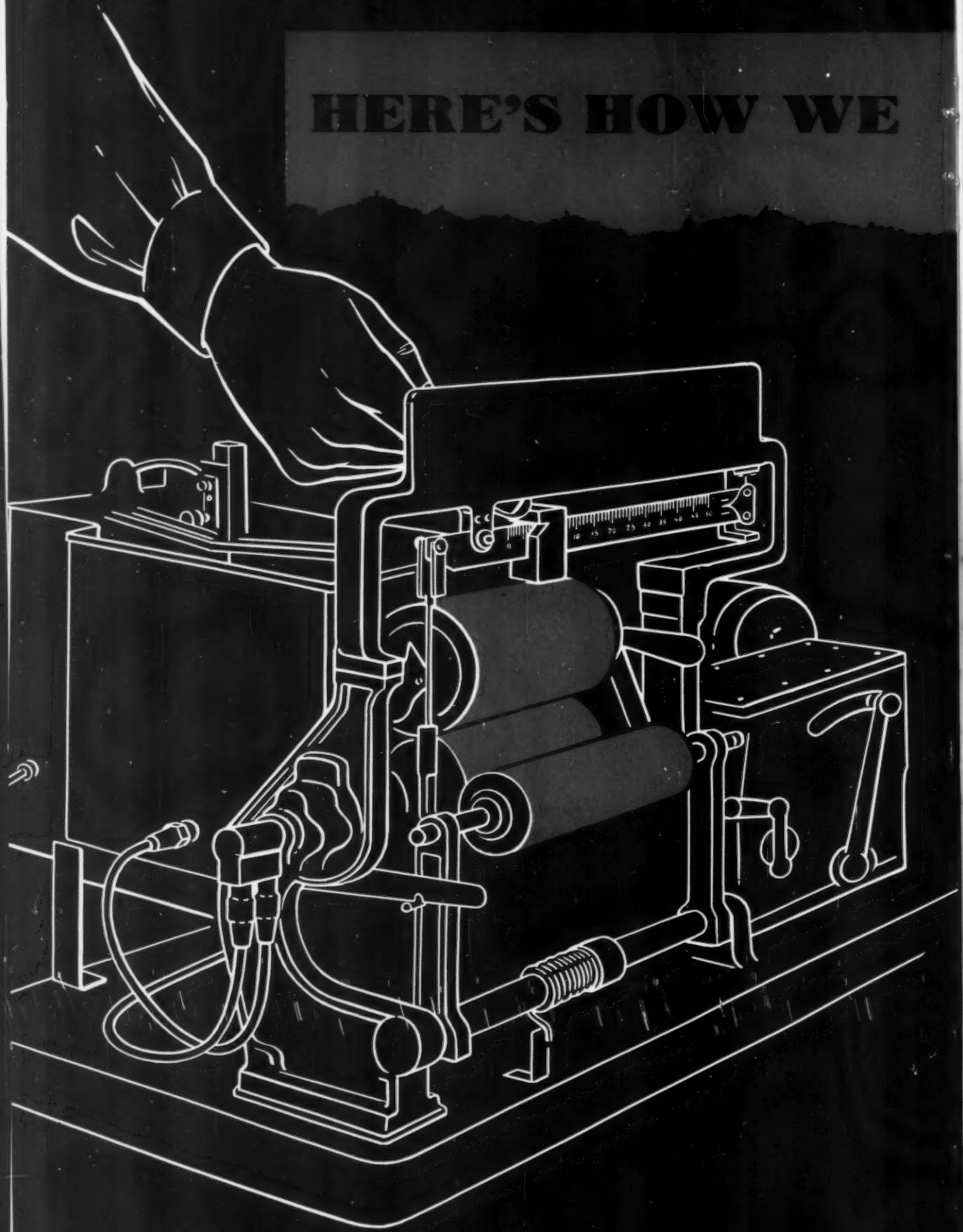
If this unusual new packaging lends itself to your product... if you want the boost of a powerful new sales-building feature... write today for complete information and prices.

Patent applied for

WHEATON PLASTICS COMPANY

MAYS LANDING, N.J.

HERE'S HOW WE



CONTROL INK TACK

Testing ink tack at IPI is a laboratory-controlled procedure under simulated press conditions

This dynamic, highly-accurate method for measuring ink tack long ago replaced the old-fashioned, hit-or-miss "finger" test at IPI.

The sensitive Inkometer (shown at left) gauges the tack of lithographic and printing inks as they are worked on the rollers at various speeds, temperatures and ink film thicknesses that closely approximate the conditions of actual printing. It also measures changes in tack due to solvent evaporation and other factors.

Numerical measurements of the amount of torque needed to work the ink film can then be compared against established standards of ink consistency. These enable IPI experts to control the tack of repeat batches . . . to make process inks trap better . . . to formulate inks that satisfactorily meet the requirements of any given set of press conditions.

Here is another forward step in the quality control of IPI printing inks . . . a further reason why our inks behave better, print better, look better on the sheet.

IPI service at work for you

Printing plants of all sizes are invited to use IPI's complete ink service facilities in printing centers from coast to coast. Each local IPI service station and branch is staffed by local experienced ink men, well-seasoned in the special printing problems of each locality. They are always on call to help you solve any printing problems—large or small—that may arise. For prompt ink service with a personal touch, contact IPI.

IPI and IC are trade-marks of Interchemical Corporation

Interchemical Corporation

PRINTING INK DIVISION • 67 W. 44th ST., NEW YORK 36, N. Y.



INTERCHEMICAL
PRINTING INKS



RELY ON IPI FOR LEADERSHIP IN INK RESEARCH

John Dale OF ENGLAND

for quality *containers*



Collapsible tubes, metal
containers, closures to
your exact specification—and made with
precision

AGENTS IN INDIA

HOARE MILLER &
COMPANY LIMITED,
5 FAIRLIE PLACE,
P.O. BOX NUMBER 63,
CALCUTTA, I.

JOHN DALE
LIMITED

MANY Styles AND Sizes

...BUT ALL ANCHORGLASS CONTAINERS
HAVE THE SAME QUALITIES



Anchorglass® Economy Bottles are available in 8 sizes ranging from 4 ounces to 1 quart, in crystal, green or amber glass. They are ideal containers for all kinds of juices as well as for syrups, sauces, salad oils and vinegars.

THEY are uniformly strong, tough, dependable lightweight glass containers—high in chemical durability, accurate in dimensions, capacity and finish. They are designed to withstand the knocks of modern high speed production lines, handling and transportation.

Anchorglass containers are the result of practical engineered designs, careful selection and control of raw materials, uniform distribution of glass, precise temperature control in annealing and thorough quality control through laboratory tests and regular inspections.

If you package or contemplate packaging in glass let us send you sample containers with suitable closures for your particular needs. The services of our Package Engineering and Research Laboratories are also available to help you solve glass packaging problems.



ANCHOR HOCKING

GLASS CORPORATION
LANCASTER, OHIO

The Most Famous Name in Glass



THE OBVIOUS competitive advantages of aluminum foil are at work for a growing number of aggressive frozen food processors. Here's what they get:

NEW PRODUCT ATTENTION—Gleaming aluminum foil packages are a standout in the refrigerated case, or on the shelf. They make products more desirable to customers because foil reflects the quality it protects.

NEW PRODUCT PROTECTION—Foil's extra product protection permits distribution over greater distances—thus helps you develop profitable new markets. Non-porous foil prevents dehydration. Reflects heat, light. Keeps moisture out indefinitely. Imparts no flavor. Prolongs shelf life.

NEW PRODUCTION VERSATILITY—Foil has excellent cold transfer characteristics for frozen foods. It is pliable and easy to handle. Easy to

print on, color, coat, emboss, or combine with other materials. Economical and reliable heat seal easily applied.

WE DON'T MAKE PACKAGES, BUT . . .

There are many leading converters eager and qualified to tackle your packaging problem with you. These converters rely on Kaiser Aluminum as a major supplier because we are an integrated operation, producing foil of unsurpassed quality in a wide range of specifications. Our Engineering and Development Division is available to work closely with converters and with you.

For names of leading converters contact the Kaiser Aluminum sales offices listed in your telephone directory. Or write Kaiser Aluminum & Chemical Sales, Inc., General Sales Office, Palmolive Bldg., Chicago 11, Ill.; Executive Office, Kaiser Bldg., Oakland 12, Calif.

Kaiser Aluminum

setting the pace—in growth, quality and service



VLCHEK BOXES

Vlchek Plastic Boxes are key display sales tools of Kwikset Sales and Service Company, Anaheim, California. Parts are packed in these individually sectioned containers for easy viewing of contents.

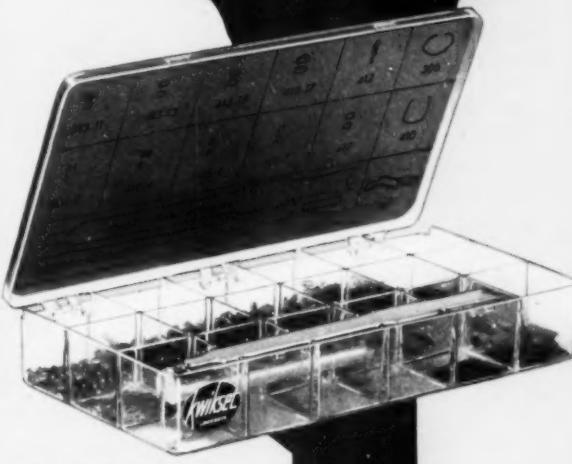
Vlchek packaging specialists have worked successfully with hundreds of companies who rely on these attractive boxes to sell and service their products. They're light, durable . . . provide quick, positive identification.

Standard Vlchek Plastic Boxes are made in eight sizes with 548 different compartment arrangements. Special boxes including variations in size, shape, color, interior design or hinge design, are also available — often at stock box economy.

We'll be happy to give you suggestions for packaging your product . . . to make it easier to sell, easier to use.



a key factor
in Kwikset
Sales



This handy Keying Kit contains all the necessary parts for re-keying cylinders of KWIKSET'S "400" Line Locksets.

SHORT CUT to packaging information

A high proportion of your routine questions about package design, materials and manufacture, plus lots of other questions which are genuine "puzzlers," can be answered by referring to your copy of the 1954 MODERN PACKAGING ENCYCLOPEDIA.

Here, readily accessible, arranged for quick reference, you will find *basic* as well as *specialized* packaging information. It contains data on the chemical and physical properties of different packaging papers . . . on formulating package specifications . . . on decorative packaging . . . on the new plastic containers . . . on films, foils and laminations . . . on machinery and equipment . . . on literally *thousands* of additional subjects.

Get acquainted with the MODERN PACKAGING ENCYCLOPEDIA right away. Refer to the many fact-filled ads. Explore the extensive Directory Section which lists suppliers of materials, equipment and services. Use it often. Doing so will be to your advantage.

Published by

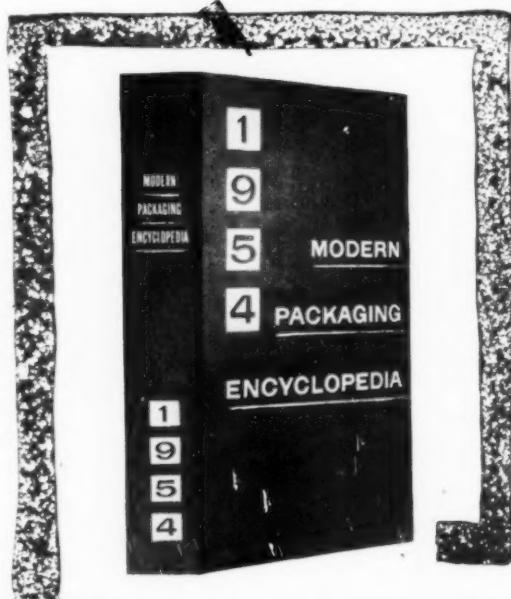
**PACKAGING
CATALOG
CORPORATION**

575 Madison Avenue
New York 22, N. Y.

An affiliate of Modern Packaging

ARE YOU CONFUSED BY TRADE NAMES?

The Packaging Industry is beset by a welter of trade names, many of them confusingly similar. The Directory of Trade Names, beginning on page 718, lists them alphabetically, describes the product, and gives the manufacturer.





PNEUMATIC GOES ALL THE WAY!

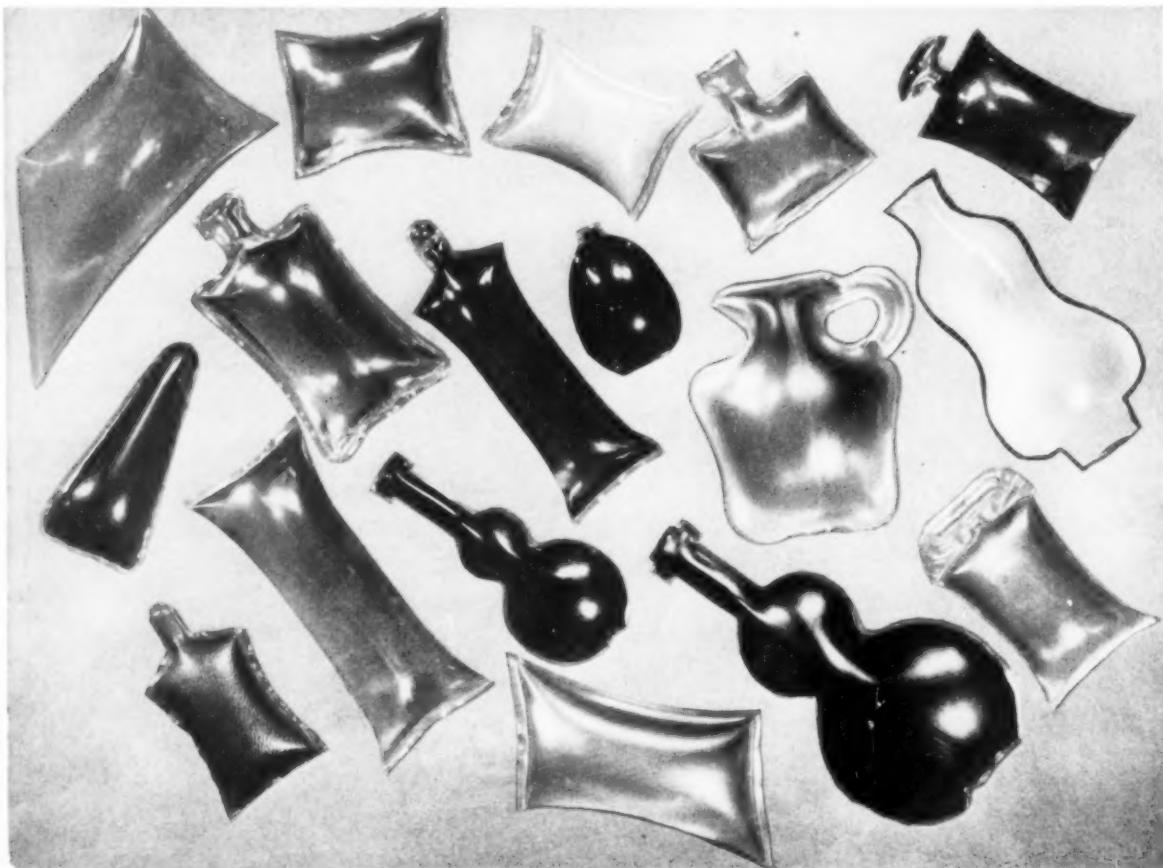


Packaging and Bottling Equipment
COMPLETE LINES OR SINGLE UNITS

PNEUMATIC SCALE CORP., LTD., 72 Newport Ave., Quincy, Mass. • New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, Eng.

THE RADO PACK

*Efficient, Very economical,
Safest in distribution, Simplest, most convenient, Attractive,
Displays the product, Lightest, easiest to pack, Unbreakable*



ALL the advantages of Unit Packaging are embodied in Packs produced by the RADO SYSTEM—based on the RADO patents—the only fast, efficient way of producing such packages. Further interesting developments pending; ask for details NOW!

WE will pack YOUR product in packages of YOUR own design, decoratively emboss them to YOUR wishes, print them attractively to YOUR requirements. Almost ANY kind of liquid, semi-liquid or pastelike product can be successfully packaged by the RADO SYSTEM.

PACKAGING SERVICE STATIONS IN MANY COUNTRIES

RADO PACKAGING SYSTEM

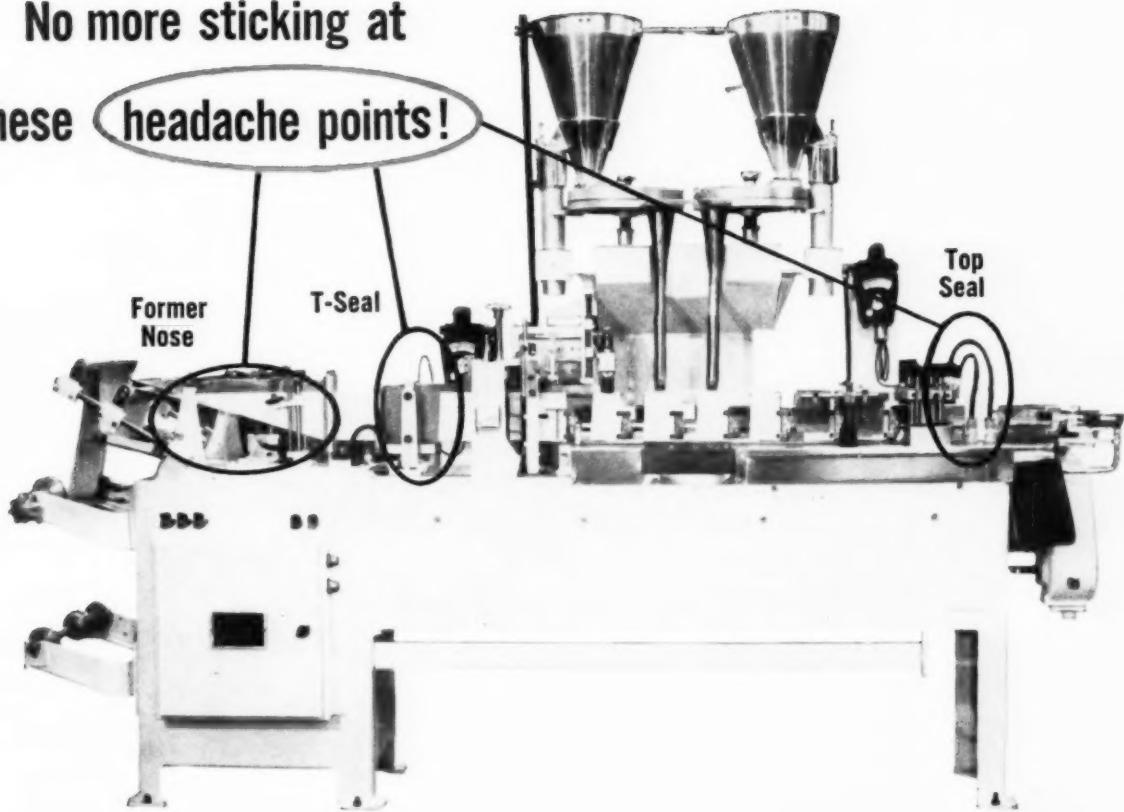
TECHNOPOL LABORATORIES LTD

Tel: CLERkenwell 9452-9453 212 St. John Street, LONDON, E.C.1, England Cables: Telabor, London

British Patent Nos. 599,174, 599,183 and 675,073 U.S.A. Patent Nos. 2,530,400 and 2,517,027

PATENTS IN 36 OTHER COUNTRIES AND FURTHER PATENTS PENDING

No more sticking at
these **headache points!**



Glass fabrics coated with Du Pont **TEFLON**[®]

tetrafluoroethylene resin

assure trouble-free heat sealing

WHEN build-up of package coatings causes heat-sealing bars to stick on a machine that forms, fills, and seals thousands of packages a day, an entire production line is blocked while you clear away the tie-up. One of the easiest ways to avoid the headaches that sticking bars can cause is to cover them with Du Pont "Teflon" tetrafluoroethylene resin coated glass fabrics. It's easy to clamp or lace a "Teflon" covering on sealing surfaces . . . and each quick installation will assure you of 3 to 4 days of trouble-free operation. Losses due to downtime for cleaning the sealing surfaces, production halts, and improperly formed seals are cut to a minimum as your line rolls smoothly and efficiently.

"Teflon" coated glass fabrics boast a unique combination of properties that make them well fitted for this type of service. They are anti-adhesive and will not stick, resist heat and abrasion, are dimensionally stable, tough and sturdy. There are many packaging uses for these unusual fabrics. In sealing odd shapes—as in wrapping produce and meats—a cover of "Teflon" on hand-iron sealing elements

keeps your output at its peak, besides eliminating the need to take time for cleaning the surfaces of the iron.

Ask us for complete information on how you can adapt "Teflon" coated glass fabrics to your own specific needs. For full data and samples, write to

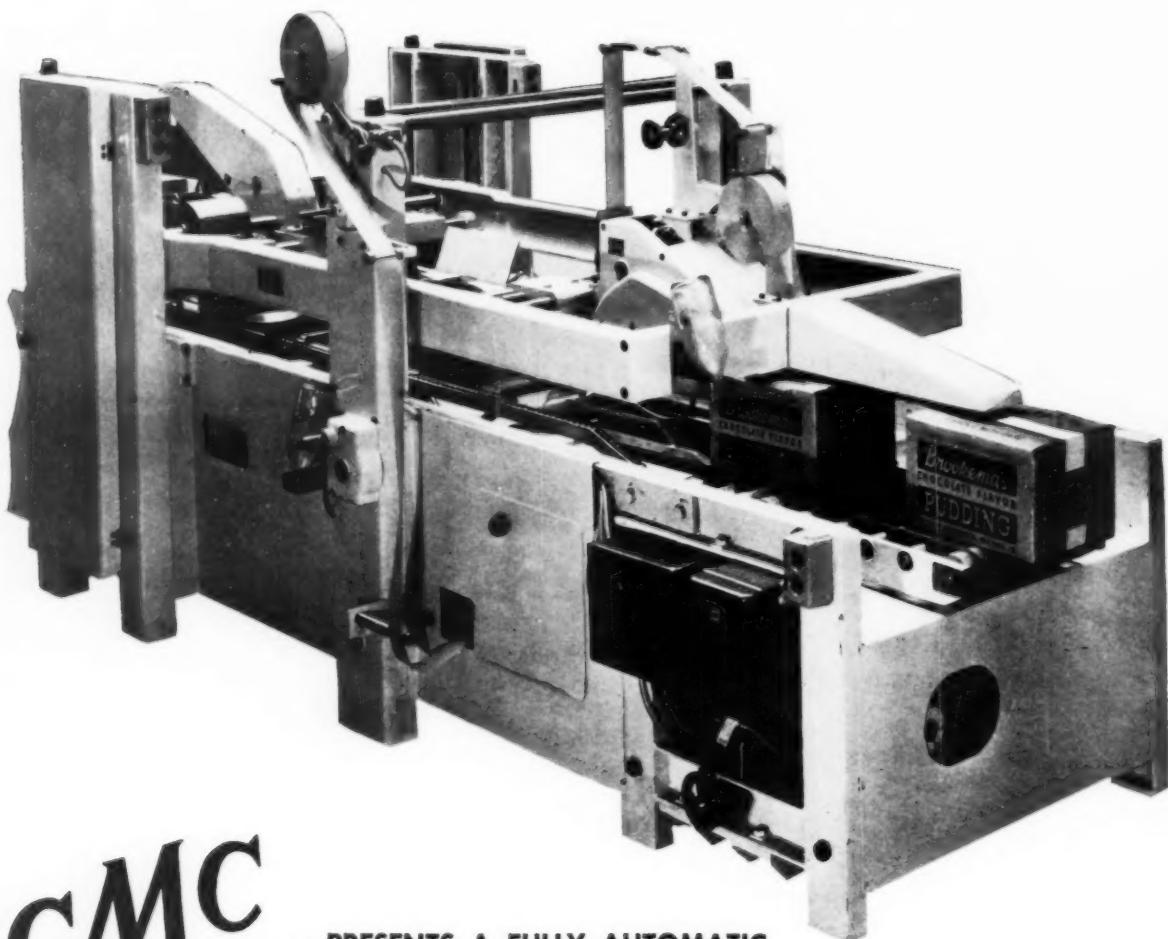
E. I. du Pont de Nemours & Co. (Inc.),
Fabrics Division, Newburgh, New York

Glass Fabrics Coated with
DU PONT
TEFLON
tetrafluoroethylene resin
Product of Fabrics Division



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

INTRODUCING



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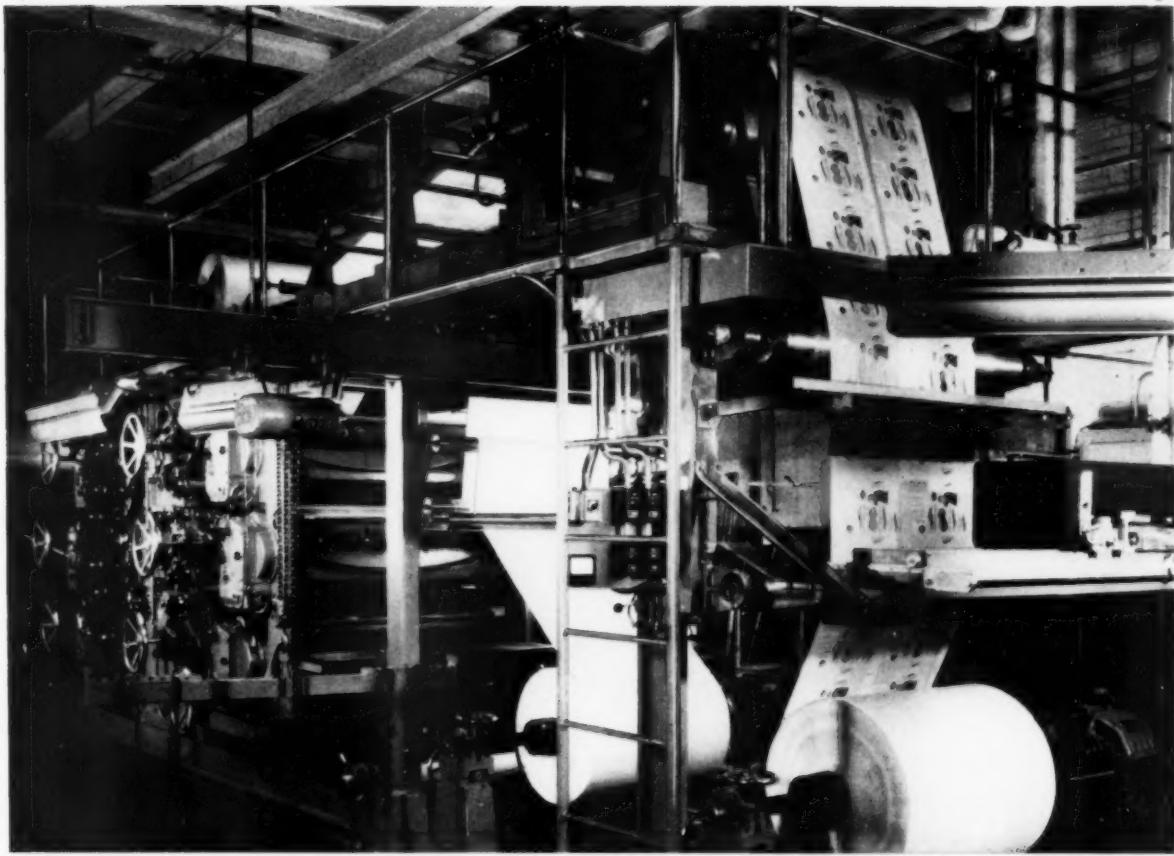
—PRESENTS A FULLY AUTOMATIC
GLUING AND TAPING MACHINE

**FOR BETTER PROTECTION
OF SHIPPING CONTAINERS**

Write for Further Information

CLYBOURN MACHINE CORPORATION

6479 North Avondale Avenue, Chicago 31, Illinois



NEW 6-COLOR GIANT for NEW PACKAGE APPEAL

Four colors in one printing used to be quite an achievement, then came the presses that could print five colors at once — and now six colors have been added to the range of KVP production.

It broadens the design horizons of packaging stylists . . . permits an almost unlimited selection of colors for adding dramatic new buying appeal to packages, on which so much depends at the point of sale.

Combine this new printing flexibility with the new unrivaled brilliance and sealing qualities of KVP Kalapak (for frozen foods) and KVP

Super Kalakote for other foods, and you have today's best answer to many marketing problems — and lower packaging costs.

The colorful brilliance of reproductions by either letterpress or gravure on KVP papers is a continual source of satisfaction to sales-minded food producers. If you haven't seen examples lately, send for some today.

KALAMAZOO VEGETABLE PARCHMENT COMPANY

Parchment, Kalamazoo, Michigan

BRANCH AT DEVON, PA. ASSOCIATED COMPANIES: KVP CO. OF TEXAS, HOUSTON, TEXAS — HARVEY PAPER PRODUCTS CO., STURGIS, MICH. — KVP CO. LTD., ESPANOLA, ONT. — APPLEFORD PAPER PRODUCTS LTD., HAMILTON, ONT.; MONTREAL, QUE.

Specialists in FOOD PAPERS



For Protection and Sales Appeal



Carton designer at work

Good carton ideas aren't dreamed up in ivory towers. Most of the time great ideas in packaging are discovered where good packaging works best—right at the point-of-purchase.

Times without number Gardner carton engineers and designers have returned from a trip to the "corner store" with an idea that became

a great package for a fine product. And in some cases, these notions started a "revolution" in point-of-purchase promotion.

A Gardner representative can cite case histories in support of this practical approach to packaging. You might find his visit eminently worth your while.



Many of America's greatest products go to market in "Cartons by Gardner"

GENERAL OFFICES: Middletown, Ohio—PLANTS: Middletown, Ohio; Lockland (Cincinnati), Ohio
SALES OFFICES in Chicago, Cleveland, New York, Philadelphia, Pittsburgh, St. Louis

THE GARDNER BOARD AND CARTON CO.



Manufacturers of Folding Cartons and Boxboards



FROM THE GARDNER GALLERY OF FAMOUS AMERICAN PACKAGES

To protect and promote a new product
by **KEEBLER**®

a **FRESH**
approach in
packaging

by
NASHUA

Freshness, in more ways than *one*, gives this package design its shelf-appeal.

The wrapper is Nashua-printed waxed paper, to protect product freshness.

The design of the wrap is fresh, and imaginative. Created by Keebler and Nashua's packaging experts, working together, it distinguishes the new Princess (unsalted top) Crackers from Keebler's familiar saltine package.

Reproduction of the crackers (in their air-tight paquets) on the wrapper, and high-fidelity color printing, combine to *show* the product at its freshest, stimulating impulse sales.

From front to back (where other cracker favorites by Keebler are displayed), this package is "tastefully" designed for today's self-service selling.

To get a fresh slant on your packaging problem, send for samples of saleswraps designed and printed by Nashua for some of the leading food marketers.



NASHUA CORPORATION
Dept. A-7, 44 Franklin Street
NASHUA, NEW HAMPSHIRE

Everything in Flexible Packaging that Sells

DESIGN/PRODUCTION

PRINTED FILM • WAXED WRAPPERS • BOX PAPERS • BOX STAYS • GUMMED PAPERS • HEAT SEAL PAPERS • FLOCKED PRODUCTS
PARTY PAPERS • PRINTED BANDS • CORRUGATOR'S TAPE • SEALING TAPE • MOISTENING MACHINES • TECHNICAL PAPER PRODUCTS

PRINCESS

UN SALTED TOP

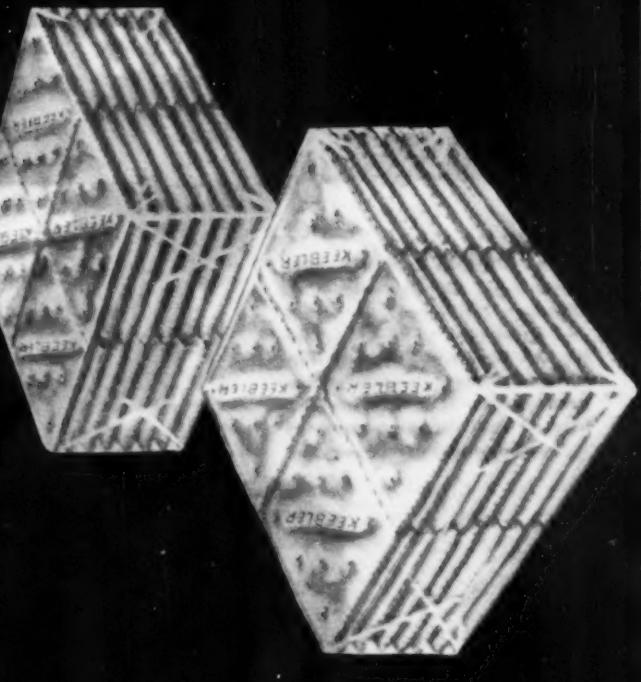
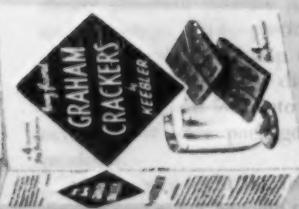
Crackers

PRINCESAS

GALLETAS de SODA

por **KEEBLER.**

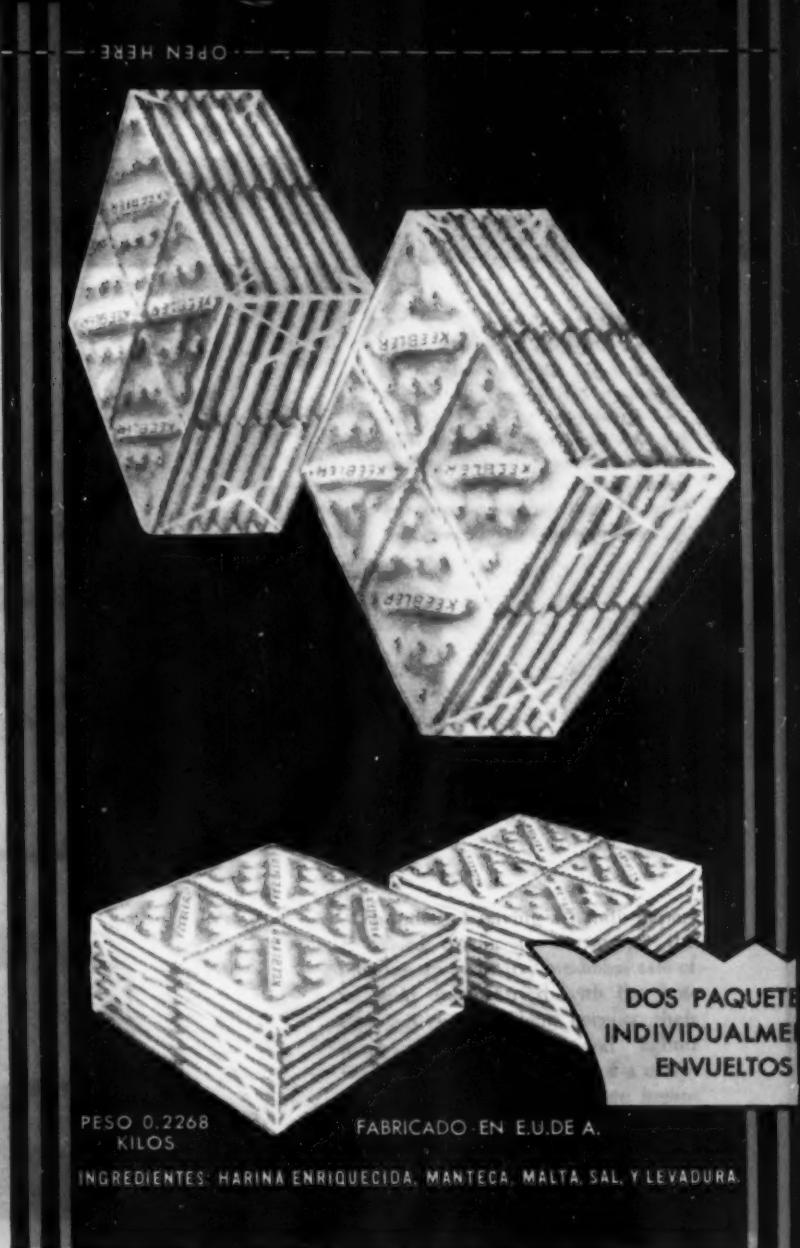
Enjoy Favorites
These Favorites
by **KEEBLER**

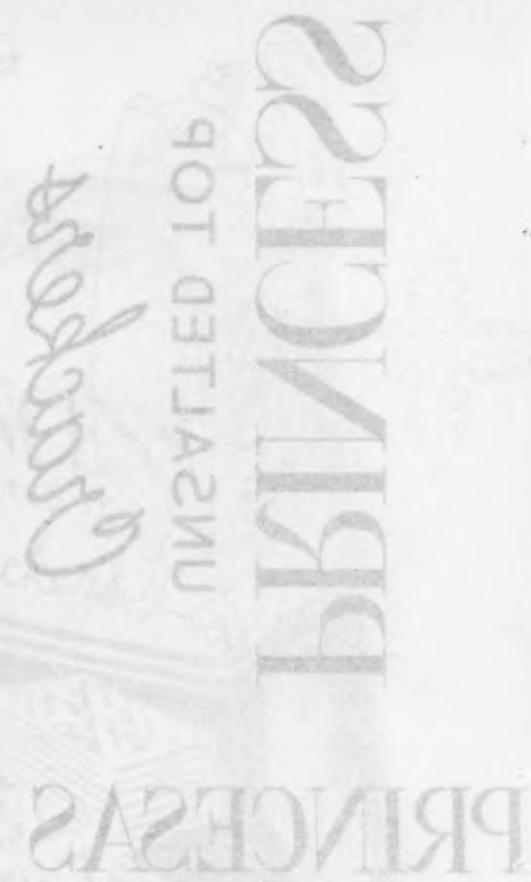


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FABRICADO EN E.U.D.E.A.

INGREDIENTES: HARINA ENRIQUECIDA, MANTECA, MELTA, SAL, Y LEVADURA.





MODERN PACKAGING

June 1954, Vol. 27, No. 10



DOG FOOD is perfect example of a product with all requirements for successful multiple-unit selling in a carry-home carton: high frequency of use; all units alike; popular price. "Name the Puppy" contest shows how carton surface may be used for special sales promotions.

THE CARRY-CARTON SPREADS OUT

It's moving from beer and beverages into every kind of product that can benefit by promotion of multiple purchases

The idea of having a handy paper board carrier to encourage the pick-me-up-and-carry-me-home sale of multiple units started with the bottled soft drinks. Then, because their more regular shapes and lighter weights obviated the need of a carrying handle, simpler and more ingenious multiple packs were devised for canned beers. Now the practice is spreading from beverages into all sorts of canned products, food and non-food, and it promises to become one of the most revolutionary merchandising devices of recent years.

Since the multiple pack has become almost standard practice in the beer and beverage fields—particularly for cans—this article will skip over those familiar fields, recently discussed in these pages,¹ and look into the recent extension of this package to other products.

Almost over night the four-can and six-can carton has become the successful vehicle for selling multiple units of fruit juices, dog food, canned milk, motor oil, household cleaning powders—even aerosols. And, judging from the vast amount of research that is being done by makers of the car-

¹ See "Beer and Beverages," MODERN PACKAGING Industry Survey, Jan., 1954, p. 100.



NUMEROUS BRANDS indicate consumer acceptance of carriers for dog foods. Market: 22.6 million dogs owned by American families.

PHOTOS: 4111 HENRY BIRDS EYE CO., INC.



FRUIT JUICES are fastest-growing users of can carriers, next to beer and soft drinks. Birds Eye's first factory multiple pack for frozen concentrate received a folding-box award in 1953. Wilrick, Inc., uses a four-can carry-home container to merchandise its canned concentrated mix for grape drink.

tons, by suppliers of equipment to set up and fill carriers, and by present and prospective users, the carry-home container has only begun to tap its potentialities.

The use of the carry-home carton is being watched closely by all packers of baby foods, canned soups and canned fruits and vegetables. And although most of the current new activity involves canned products, bottles and every other form of unit package are feeling the influence. One carton supplier reports that his company will shortly go into production with a giant carry carton for six loaves of bread.

Trade reports indicate that canned fruit juices will soon be the biggest users of carriers outside the beer and soft-drink field. Birds Eye adopted carrier cartons for frozen juice concentrates at least two years ago and while Minute Maid is not using cartons, this firm has adopted the principle with carrier-handle bags filled at the store level for six cans of orange juice and a picnic-pack assortment of frozen juices. It is predicted that



Today's product leaders using carriers

PHOTOS COURTESY ATLANTA PAPER CO.



CANNED MILK carriers have been adopted for several leading brands. Success is indicated by Borden's recent branching out with four-unit carrier for 1/2-pint cartons of chocolate milk—a fresh milk product.



nearly every major packer of canned juices will be using carriers before the end of the year.

In the dairy field, the six- and four-can carrier for Borden's Evaporated Milk has been followed by a new carrier in some markets—this time in the fresh-milk category for four individual cartons of Borden's Chocolate Milk. Other users of carry-home cartons for evaporated milk include Armour & Co. and A & P, which has tried them for its White House brand.

At least a dozen brands of canned dog and cat food are being merchandised in carriers. The extent of this market can be realized when it is known that American families own 22.6 million dogs and 26.7 million cats, which must be fed daily.

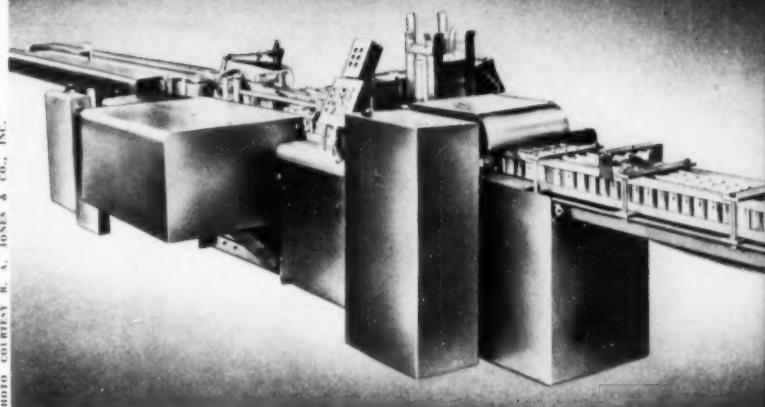
Sears, Roebuck & Co.'s carrier for six cans of All-State Motor Oil and Penola's carrier for five cans are opening up the motor-oil field—a natural application.

In addition to carriers for the multiple selling of staples, there is a definite trend to their use for many specialties in the food field, such as ice-cream toppings, cocktail fixings, jams, jellies and confections.

Multiple-selling principles

Growing interest in carriers is, of course, the outcome of market studies that point to the effectiveness of multiple packaging in general as a modern technique for boosting sales. Some sources predict that multiple packaging will prove to be one of the most

PHOTO COURTESY R. S. JONES & CO., INC.



LATEST EQUIPMENT for cartoning three, four, six or 12 cans in sealed-end carriers has reported speed to handle between 700 and 800 cans per minute. This development is being watched closely by concentrate, dog-food, soup and baby-food packers. Machine automatically separates required number of cans, inserts cans, glues and closes both ends of carton and discharges through heated drying conveyor. Case packer (not shown) will take full output of cartoning machine.

significant advances in merchandising since the change from the cracker barrel to the unit package.

Multiple packaging has been defined by a leading carton manufacturer as the secondary packaging of a number of units, each of which is already in some form of primary package, to give merchandising advantages not attainable with the primary package. Encouraging a bigger unit of purchase is only one of these advantages.

In today's self-service outlets the multiple-unit package offers a sound way to cut prices—six for the price of

five, or four for the price of three. It also offers the opportunity for a manufacturer to broaden the use of his product. A unit of two or three cans of cleansing powder, for example, provides the consumer with enough single packages for all spots in the home where such a product might be used—the kitchen, the bathroom, the laundry, etc.—without having to fetch one can from place to place when it is needed.

On the weekly stock-up shopping trip to the supermarket, consumers are becoming accustomed to the convenience of carriers with their multiple

PHOTO COURTESY OLD DOMINION BOX CO., INC.



HOUSEHOLD CLEANERS may be offered in carriers for special price promotions or to promote new uses—a handy can in the kitchen, the bathroom, the laundry.

MOTOR OIL is offered in units of six by Sears, Roebuck & Co. and in a five-unit carry carton by Esso for Penola.

PHOTO COURTESY CONTAINER CORP. OF AMERICA



Carry-homes
tailored to special
selling ideas



COCKTAIL FIXINGS—martini olives, Manhattan cherries, Gibson onions—are combined in Re Umberto Party-Pal pack.



FRENCH-DRESSING kit contains Star Lucca olive oil and Star California wine vinegar as an introductory offer.



BACARDI RUM is offered to cruise and air passengers in corrugated carriers to take back from Cuba to the States.



ICE CREAM TOPPINGS are turned into multiple-unit impulse items by Flavoripe Co., which merchandises four flavors in container with handles.

PHOTO COURTESY BRADLEY & GILBERT.

units that provide, in one package, practically a week's supply of fruit juices, dog food, etc. They like the ease of handling the multiple unit from store to refrigerator or pantry shelf. Market studies show that shoppers like carriers so much they will even put single units back on the shelves to pick up another brand in a carrier.

Retailers favor multiple packs, obviously, for any product that it is practical to handle in this manner. A multiple unit means a larger sale with less overhead. It takes less work to arrange multiple units than single packages—and the carriers are easier to keep in order in the store.

There are other factors favoring the extension of carrier-type multiple packaging to new product fields. They include:

1. Efficient high-speed methods for setting up and loading the carriers mechanically are already available as the result of large-scale usage in the beer and soft-drink fields.

2. Broad printing surfaces provide excellent opportunity for full-color illustrations and presentation of selling copy.

3. Frequent changes in treatment to meet seasonal requirements and special promotions are possible without disturbing primary package-design identity.

4. Flat printing surfaces offer more effective point-of-sale display than the curved surfaces of individual bottles



COOKING UTENSILS are a gift set in corrugated carton with handles—a convenient pre-pack for retailers and consumers.



COFFEE DUO of 1-lb. vacuum packs replaces Woods Bros. Coffee Co.'s former 3-lb. glass pack.

or cans—a factor that often encourages mass display of the carriers at the retail level.

Types of carriers

Until recently, variations in the construction of carriers were endless, depending on the details of die cutting, scoring and gluing, but with the demand for high-speed, mechanized handling there is now a noticeable tendency to concentrate on a few basic designs. Carriers, as they are evolving today, may be placed roughly in five basic categories:

1. *Open-top or basket type.* This type is the oldest and most familiar, having started with bottled soft drinks a number of years ago. For bottles, this type is usually designed with partial partitions or dividers to hold each bottle individually and with a die-cut, upright handle. Open-top and basket styles are also suitable for carrying cans, but for this purpose are usually made without dividers and are equipped with slots or locking flaps to keep the cans in position. They may be set up and loaded with bottles or cans by a number of different machines.

2. *Can band or sleeve type with locking end flaps.* Patented carriers of this type are supplied in the form of pre-fabricated glued paperboard sleeves with end flaps that lock into the chimes of the end cans to hold the unit in place. The cartons may be applied by hand or by special machines

which set up the sleeves and insert the cans. They have the advantage of accommodating odd as well as even numbers of units, such as threes and fives as well as twos, fours and sixes. They may be made either with thumb holes or stand-up handles for carrying.

3. *Wrap-around, flat-sheet type with die-cut slots.* This carrier is supplied as a flat, unglued, die-cut and scored sheet which is wrapped around the assembled cans and glued by special machinery supplied with the carton order. Positioned slots in the sheet lock each of the cans in place when the carton is filled and sealed. These patented cartons may be equipped with thumb holes or stand-up handles as desired. They are made by a selected number of licensed carrier manufacturers.

4. *Sealed-end type.* The construction of these carriers is as simple as a sealed-end square or rectangular carton, made with die-cut holes as a carrying convenience or with an upright handle. They may also be made with an open top to accommodate bottles or cans. They may be produced by any carton manufacturer and can be loaded automatically on high-speed can- or bottle-packing equipment designed for the purpose.

5. *Specialties.* Many custom-designed constructions may be ordered, tailored to specific uses, such as for glassed products, assortments of food delicacies, confections, etc. Usually these are set up and filled by hand.

A reportedly promising new tray type of carrier is also being studied by the fruit-juice-concentrate, canned-soup and vegetable packers. It permits full view of the cans on their sides, holds them in place by locking flaps and may be made, without glue, of wet-strength board to withstand moisture of refrigerated display cases. Special machinery has been designed to provide a system for setting it up and inserting the cans, and loading the trays into cases. Market tests have already been conducted by the Florida Citrus Commission using various nationally advertised as well as private brands.

Economics of handling

The first essential in the adoption of any carrier package, of course, is the choice of the design that will best fit the circumstances. In the selection of carriers, particularly by large users, a more important consideration than physical construction of the carton is the whole related mechanical system of the carrier and its loading. One firm in the household-products field, for example, wants to use multiple-unit carriers and will use them by the millions—but is waiting for a suitable mechanical system for handling the carriers in synchronization with its can lines.

Many users are discovering that a low-cost carton, even though it may save a certain amount of board, is far from the answer to economy when



STORE-LEVEL packaging of six assorted Minute-Maid frozen juice concentrates in handled bags, treated for frozen-food cabinet display, indicates popularity of multiple purchasing.

related to desired production speeds, ease of set up and loading, continuous operation, etc.

As in other phases of production, experience in carrier handling systems is showing that greatest economies may be achieved by the use of the simplest carton-forming and loading operations. This calls for cartons that require fewer difficult folds and less complicated means of securing the cans or bottles in the container. Such cartons may require more board, but material costs can be well offset by the economies of higher speed and continuity of production.

Much study is being given to these production requirements by both carton and equipment manufacturers. The results are showing up in the trend toward greater standardization in carrier constructions and handling systems. Some sources predict that this standardization will eventually approach that which now exists for primary packaging in the handling of soap and cereal cartons. That such standardization of carton and carrier handling pays off is indicated by the rapid progress being made by one firm whose patented cartons are applied by a high-speed machine supplied with the carton order. The number of carriers used with this system has more than doubled in one year.

And the speeds that are being attained by modern can- and bottle-packing equipment as the result of simplified construction of the carriers are little short of amazing. One firm has available machinery which will insert six cans into cartons, group the cartons and insert them into corrugated cases, and seal the cases at speeds which will keep pace with can lines turning out 500 cans per minute. A new machine performing similar operations has just been announced which is said to handle between 700 and 800 cans per minute, with companion equipment to group and insert cartons of six, eight or 12 units into master cases. Change-over time from one quantity or size is said to be only a matter of minutes.

Best applications

To what products can the multiple-unit carrier best be applied? Is it most

effective in offering multiples of the same product, or assortments?

There is apparently no hard-and-fast rule; it depends upon the product and upon consumer habits. But it may be pointed out that the greatest success has been had in multiples of the same product, where the product has daily or frequent repeat use. The danger in an assortment is that it may contain one variety that the family doesn't care for and that will kill the sale of the entire multiple. On the other hand, the assortment pack may be a valuable way of introducing consumers to new or additional products in the manufacturer's line.

Beer and soft drinks were naturals for carrier selling because of the consumer convenience of having a ready supply on hand, eliminating frequent repeat trips to the store. It is, of course, basic psychology that more of such products will be consumed if there is an ample supply in the house. The same reasoning is behind the more recent success of fruit juices and dog foods in carrier packs.

Similar successes are predicted for carrier cartons of baby foods and canned soups. Packers of these products, however, have a ticklish problem in determining which varieties of baby foods and soups to put up together in an assortment package. It is mechanically feasible to package several varieties together via conveyor lanes that converge in the cartoning machines, but so far the large companies have not been able to determine suitable assortments that will meet the preferences of a large enough segment. *(This article continued on page 200)*



SIX AEROSOLS containing American Potash & Chemical Corp. refrigerants in a carrier carton provide new convenience for storing the product and are easier for the refrigerant service man to handle.



MEXICAN DINNER for six is a popular seller in the Southwest. It is promoted in a five-can carrier carton with handles and includes chili con carne, fried beans, tamales, enchiladas and Mexican-style rice.



ATTRACTIVE APPEARANCE of green board helps boost Sterling's expanding mail-order business. Company slogan is featured on the side opposite the address label.

DURABLE MAILER with double and triple walls is formed around Sterling's eye glasses in their case. Printed copy on inside wall of outer container replaces labels previously used on two-piece carton.

Box within a box

A new one-piece mailer designed for Sterling's eye glasses shows promise for shipment of other fragile items as well

The mailing of eye glasses would obviously require a carton offering superior cushioning and protection. But the optical trade has traditionally fallen back on stock two-piece, set-up mailers which, although they performed a satisfactory job, did leave some room for improvement.

Sterling Optical Co., well-known opticians with retail outlets in New York City and Washington, D. C., is setting a new pace for the trade with a custom-made, one-piece corrugated folding carton which is actually a box within a box, or an outer container with an integral liner.

This new mailer, which is also said to be adaptable for other delicate items, is used for mailing eye glasses from the Sterling stores to the homes of customers and is sturdily constructed so that it can be re-used should the customer desire to return

the glasses to the optician for any additional work.

According to Sterling, the mailer fits the job to a "T" because it is extremely durable and resilient. It has double walls throughout and in some parts triple walls. The construction is no more than an inner liner of B-flute, non-test kraft glued to an outer container of B-flute 200-test kraft.

Requiring no taping or stapling, the mailer is rapidly and easily folded around the glasses which are, of course, enclosed in a conventional eyeglass case. It is sealed shut by simply inserting its end flaps into the opposite folds. Shipped to all parts of the United States, Europe, Africa and South America, the mailer is said to remain tightly closed from the time it is formed until it arrives at its destination. Reductions in size and weight

have resulted in a saving of three cents in postage on every mailer sent out.

Since the new mailers are shipped to Sterling knocked down, the company estimates that about 30% is saved in storage space. In the near future, the optical house expects to have a double mailer (for two pairs of eye glasses) which will be only about three-quarters of an inch higher than the one illustrated.

Although Sterling is the first company to use the mailer, it is expected that it will prove useful in shipping other products, including jewelry and bottled liquids. It is reported to be available in a wide range of sizes and can be used with or without the liner.

CREDIT: "Uni-Pak" mailer, Lanco Container Corp., 39-49 York St., Brooklyn, N. Y.



Camel's

For months the cigarette industry has been waiting to see how the maker of the biggest brand of all—Camels*—would move to meet smokers' decided trend toward king-size and filter-tip cigarettes. All of the other major brands had, by early this year, adopted one course or the other—either in their regular brand or in a companion brand.

The R. J. Reynolds Co.'s answer is a companion brand for Camels which goes both ways. It's a king-size cigarette with a filter tip, called Winston (the name being derived undoubtedly from the hyphenated North Carolina city where the Reynolds company headquarters, rather than from the Former Naval Person who is more famous for cigars).

The advent of Winstons is an event of considerable interest not only in the tobacco world, but in the packaging world, for with Camels Reynolds has long been recognized as the packaging leader in the cigarette industry, having pioneered such basic forms as the cup-style 20s pack, the one-piece carton and the moisture-proof cellophane wrap. Since it is difficult to improve upon these basic forms, now universally used in the cigarette industry, interest in the Winston package lies primarily in its label design.

With Camels enjoying a wide margin of sales leadership over all other brands, the Reynolds company has been ultra-conservative. Despite its pioneering in construction and materials, it hasn't changed the design of the Camel label one iota since it was first introduced 40 years ago. It has, up to now, stayed away from the companion-brand idea, even though competitors were having notable success with it.

The new Winston is a departure not only in policy but in design, for its label is as refreshing and modern as Camels' is familiar and traditional.

The new package is brilliant red, widely banded in the center with a white panel edged in gold and car-

* See "Camel Cigarettes," *Packaging's Hall of Fame*, MODERN PACKAGING, Oct., 1951, p. 78.



END PANELS were planned with white arrowheads to give quicker brand recognition when packages are stacked endwise in today's drug and cigar stores, even if the revenue stamp partially covers the name.



FLEXIBILITY of design is shown by its adaptability to 10-pack carton.

baby

rying the distinctive Winston brand name in red letters. Black is used to emphasize the words "Filter Cigarettes," which appear directly beneath the brand name, "Winston."

The red panel above features the words "King Size" in small white letters separated by a tiny gold crown, while the bottom red panel carries the words—"Finer Filter, Finer Flavor"—also in white letters.

The design was easily modified to the carton, which also is printed in red, black and gold on white.

An interesting design detail that indicates a new trend in tobacco display is the handling of the end panel.

Today cigarettes are being stacked more frequently in drug and cigar stores as well as in back-bar racks with only the end panels of the packages showing. Since these panels are used for tax stamping in most states and cities, brand names tend to be

It's a lusty, king-size, filter-tipped infant

named Winston, its label marks a striking

departure for the old conservative

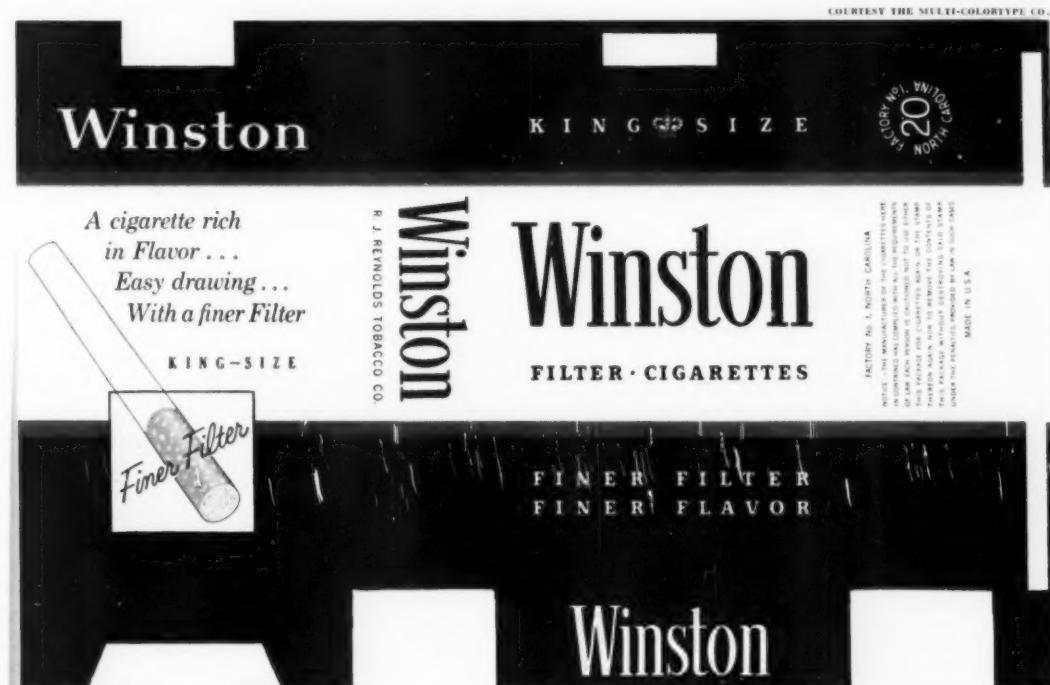
covered up. To provide quick and sure brand identity for Winston, the designer has planned the new package so that the bottom forms two white arrowheads, pointing directly at the brand name. Thus, even if the brand name is partly covered, the arrow acts as a strong distinguishing feature.

A design for a cigarette package must meet an unusually long list of requirements. It must be strong in impact for visibility, yet not be offensive as a personal accessory. It must be equally attractive to both men and women, and to widely varying

income groups. It must be capable of reduction to the values of black and white without loss of contrast or legibility for television and newspaper advertising, and it should be adaptable easily to limited as well as full-color reproduction, for posters and magazine ads.

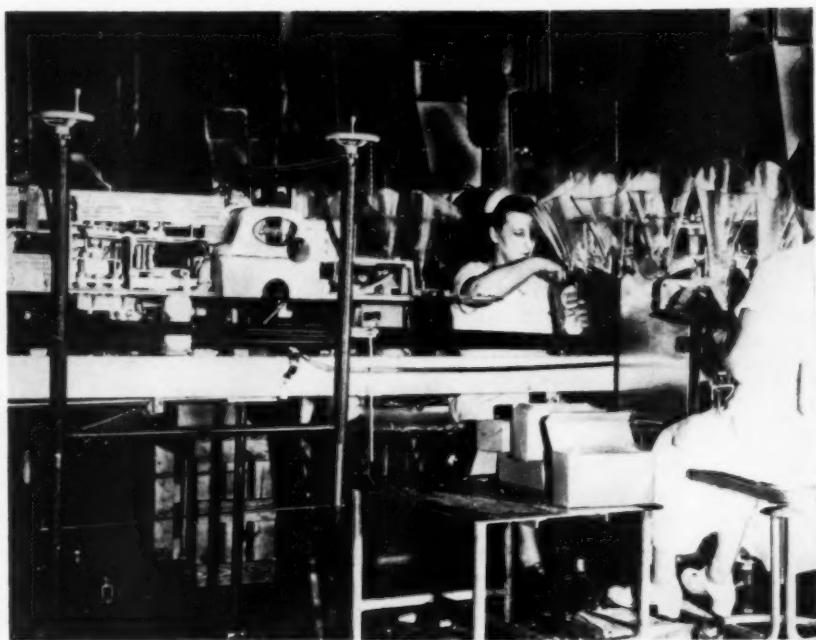
All of these requirements were carefully considered by the designer during the development of the Winston package.

CREDITS: Design, Royal Dadmun & Associates, 1118 N. Calvert St., Baltimore 2, Md. Wrap, The Multi-Colotype Co., 4575 Eastern Ave., Cincinnati, Ohio.



LETTERPRESS PRINTING used for Winston labels illustrates good broad solid color work with overprint of gold. After initial promotion, back panel may change to repeat face design, as originally planned.

SMOOTH, TIGHT LABEL is automatically heat sealed to cellophane bag top by new machine after bag itself has been heat sealed. It replaces hand stapler that often damaged saddle label.



CONTINUOUS LINE moves from stainless-steel-and-plastics weigher-filler at right through new sealer-labeler at left. Two attendants are required only to load and remove cellophane bags from revolving filler hoppers.

Bag sealer-labeler

In a continuous two-stage operation, it heat seals Durkee bags, then picks up, folds and applies thermoplastic saddle labels

In its progress toward complete mechanization of its production lines, The Glidden Co.'s Durkee Famous Foods Div. at Elmhurst, N. Y., has taken another forward step with the adoption of a continuous-motion machine which automatically heat seals cellophane bags filled with Durkee's shredded cocoanut, then automatically applies a saddle label and heat seals it in place.

The Durkee installation, which has been running now for nearly a year, is said to be one of the first completely successful applications of the new machine, which has also attracted the attention of other bag users in the cracker, biscuit and confectionery fields. Its main point of difference from other sealers on the market is that it first seals the bag and then ap-

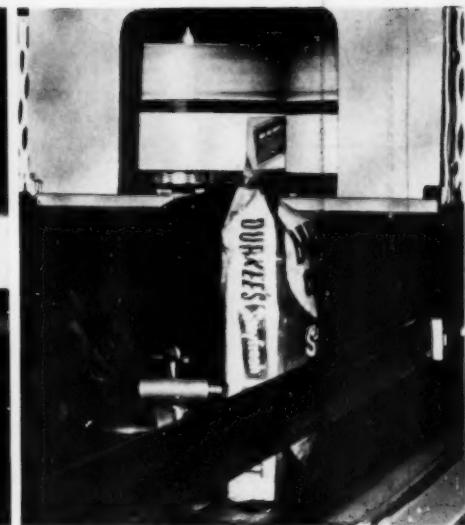
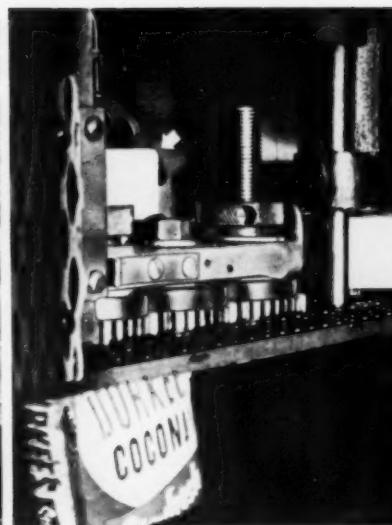
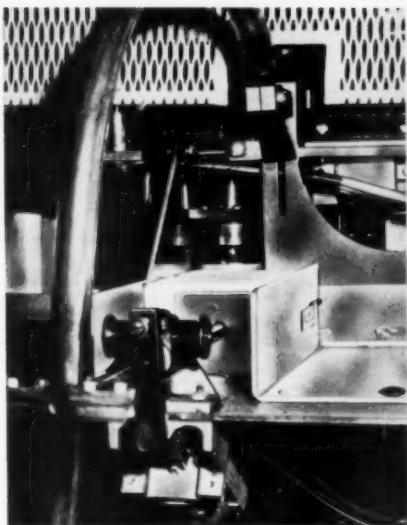
plies and seals the label in place, making what is said to be a foolproof, airtight closure without crimping marks on the label. Ordinarily, the label is applied to the open bag and the heat seal made through the label and the bag. Control of heat and dwell time must always be exacting in these cases so as to apply sufficient heat for a tight seal, but not an excessive amount which will scorch the label.

A conveyorized operation, with a standard type of net weighing and filling machine often used for semi-dry, free-flowing products such as potato chips and cereals,* makes the Durkee set-up a model of efficient automatic packaging of a product difficult to handle. Two operators are required on

the filling machine for loading the cellophane bags on 15 revolving plastic chutes and for removing filled bags and guiding them into the new sealer-labeler.

From here on in, the labeling is completely automatic. Two compressor wheels straighten out the film to make it easy for an arm to fold over the top of the cellophane bag before it passes through a rotary heat sealer. Now tightly sealed, the bag passes a half-moon wheel, the carrier for the label. Automatic label feed is accomplished by a vacuum which pulls a single label from the magazine, in back of the passing bag, and carries it around to the sealed bag every time the carrier wheel makes a complete revolution. The vacuum is cut off long enough to allow the wheel to release

* See: "A New Flexible Net Weigher and Filler," MODERN PACKAGING, June, 1953, p. 158.



LABEL FEEDING mechanism, back (left) and front views, showing how label is pulled from magazine by vacuum onto revolving carrier wheel which preheats the thermoplastic before setting label (right) on bag top. In front view, arrow points to folding arm behind label about to be folded over top of the bag.

DISCHARGE END of sealer-labeler, showing finished bag emerging from compression unit which firmly and smoothly seals saddle label.

the label. The wheel serves the second function of pre-heating the thermoplastic label before application to the bag. The tacky label is folded over the bag top by a folding arm and is then firmly sealed in place as it passes through a 12-in. bar sealer and compression unit at the end of the line.

A conveyor moves the bags to a table where they are packed in 2-dozen units in a shipping case and placed on a conveyor which delivers them to the shipping room on the floor below.

The machine is adjustable to the 4-, 8- and 16-oz. bag sizes which Durkee uses. To adjust for different-sized bags, it is only necessary to raise or lower the sealer magazine section of the machine, which is conveniently mounted on a four-post trestle.

Machine speed achieved by Durkee has not been divulged. According to the machinery manufacturer, the unit can do about 40 bags a minute. An improved model, the result of considerable testing at Durkee's and other plants, is expected to have a capacity of 70 bags a minute. The extra speed will be reached by feeding a label every time the carrier wheel rotates 180 deg., or two labels for each complete revolution of the wheel.

Only four years ago, Durkee's coconuts packaging was far from the streamlined efficiency which distinguishes it today. Non-free-flowing products like coconut at the Durkee plant, and at other food packer plants

as well, were loaded into bags by operators with hand scoops. The change-over to a more mechanized technique was made when the automatic filling machine was installed in conjunction with the rotary bag-sealing machine. The latter machine, however, had no provisions for attaching a label and a continuous, straight-line production system, for the sake of faster filling speeds, was still desired by the plant management. At that time an operator manually stapled each label to a bag.

That its present bag sealers can be converted to the new, completely automatic labeling system is claimed to be a distinct advantage for the company and explains why the equipment has aroused interest from other users who already have rotary bag sealers.

Not having a limiting time cycle common to other type sealers is said to be another outstanding advantage of the machine. According to the manufacturer, labels up to 6½ in. long by 5 in. high (before folding) can be handled. Durkee's eye-catching yellow, red, blue and white label, measuring 3½ by 2½ in., is now used for the 8-oz. package and will also suffice for the 4- and 16-oz. sizes since only the height and not the width will be changed. Maximum depth of seal, front and back, is 2 in. The label may be folded in half so as to make it evenly divided on both sides, as on the Durkee bag, or it may be divided unevenly with the short edge sealed to

the back and the long to the front. The latter is often done when the manufacturer of a product uses the unsealed perforated edge of a label as a coupon or for special promotion.

CREDITS: Sealer-labeler, *Doughboy Industries, Inc.*, New Richmond, Wis. Bag-filling machine, *Woodman Co., Inc.*, Decatur, Ga. Labels, *Tompkins Label Service*, Frankford at Allegheny, Philadelphia 34, Pa. Printed cellophane bags, *Continental Bag Specialties Corp.*, Clifton, N. J.

THE OLD WAY



PREVIOUSLY saddles were attached by hand with ordinary desk stapler—a bottleneck in the production line, producing a much less attractive package.

Last year an historical milestone was reached in the wonderland of the toys and games industry. For the first time, the industry—a comparative youngster in this country—reached one billion dollars in retail sales. The cash registers were ringing up toys and games sales in many and strange places—supermarkets, newsstands, automobile, drug, stationery and hardware stores—in addition to the regular sales in toy, department and variety stores.

Toy manufacture has become a full-fledged industry in this country only in the last 40 years. Before World War I, large quantities of toys were imported from Japan, Germany and other foreign sources. As recently as 1940, according to *Fortune*, our toy industry amounted to only \$240 million.

The expanding dimensions of the industry were apparent at the annual Toy Fair in March of this year in New York City. A record-breaking 1,300 toy manufacturers exhibited—a 10% increase over last year and 30% more than three years ago. An overwhelming 13,000 buyers and other interested persons plodded from display room to display room in two hotels and several exhibit rooms scattered about the city.

Including borderline cases, you can probably find about 2,000 toy manufacturers in the United States today. Many are small; many have a short business-life expectancy in a hazardous industry where public caprice and fancy spell the difference between success and failure. Out of

A NEW DIMENSION has been given to toy merchandising by special appeal to impulse and self-selection sales in supermarket, drug and hardware stores. The film bag with saddle label perforated for hanging on wire rack is very effective package.



Toys and



PHOTO COURTESY TOY GUIDEANCE COUNCIL.

APPEAL TO ALL AGES is one of the reasons for recent remarkable growth of toys and games industry. Model making and other forms of hobbycraft often involve father and son—and maybe granddad, too. Packaging and display of model kits has become a highly developed art.

these legions of manufacturers, only about 500 cut the largest slice of the sales volume.

Despite these dangers, the industry still enjoys an expanding sales volume in the midst of a sharp change from a seller's to a buyer's market in most commodities. One key to the industry's current and future growth is the continuing high birth rate. According to the Bureau of the Census, U. S. Department of Commerce, there are now about 16,000,000 children in the United States under five years old and a total of over 51,000,000 under 19. The Bureau's projections show that by 1975 there should be over 24,000,000 children under five and a total of 85,000,000 under 19 out of a total population of 220,000,000, if population growth continues at the 1950-53 rate.

But big though the market is, the winning of it is not easy. Toy manufacturers must use strategy to coax a share of the consumer's dollar and in their own industry competition is

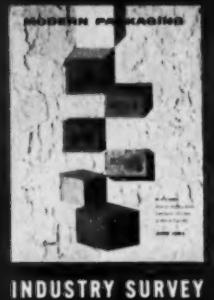
growing keener all the time. Toys and games are not staple products that people must buy; they fit more in a quasi-luxury category and, according to one survey as yet unpublished, the impulse-buying figure for toys is far above the average supermarket product.

The toy manufacturer has never been more packaging conscious than he is today, for the very good reason that he now knows that the package serves him as an irreplaceable sales tool. Like numerous other manufacturers, he now needs a package that will push sales under a variety of self-service and self-selection selling

BRIGHT COLORS and imaginative design of packages stimulate youthful interest. Platforms, dividers, die cuts and cellophane envelopes to keep components straight are special problems of toy packaging. Colorful molded plastics are increasingly popular.

games

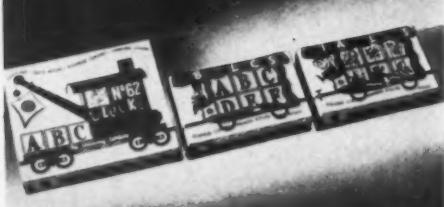
It's a rapidly rising billion-dollar industry,
borne on a wave of colorful, informative,
well-designed and well-aimed packages



COLOR PLATES COURTESY CATALIN CORP.



**Good design
is no stranger
to toy and game
packages today**



PHOTOS COURTESY MERRITT, INC.

CLEAN DESIGN: bright, action-filled, amusing motifs; unusual yet related colors distinguish this new series of packages for The Embossing Co. products. Note generous use of white space and display-winning techniques. Each package is marked as to toy's suitable age level.

conditions. Unlike the manufacturer in staple lines, his sales are not primarily keyed to any one outlet, such as the food market. In the last decade his distribution has taken on many new complexities, fanning out to cover sundry retail outlets—hardware, stationery, food, automobile and furniture stores.

The big objective in recent years has been to make toys more of a year-round business, rather than having sales concentrated in a month or two before Christmas. The objective has been won—but it has imposed an even greater burden on the package as a salesmaker.

MODERN PACKAGING has selected the vigorous toy industry for its Industry Survey this month because of toy makers' skill in using the package to help consumers intelligently to select toys and games.

Informative packaging

Having seen the lessons in other fields, the toy manufacturer today very sensibly vests his confidence in the so-called "informative package" that spells out what the toy is, its educational or entertainment value and how it works. The poorly labeled, blind carton—a disappearing species—obviously does not fit into the scheme of self-selection selling.

Toy outlets today are crammed with colorful packages which demonstrate some of the best principles of informative packaging and which would vie for attention with some of the best packages found in self-service food stores. Cartons feature full-color illustrations with explicit copy; window cartons combine the assets of rigidity with look-see transparency; combination shipper-display cartons with risers are widely used as another way to place additional product information before the shopper at the point of sale.

One of the leading proponents of branded, informative packaging, Childhood Interests, Inc., Roselle Park, N. J., was the subject of a recent MODERN PACKAGING study.¹

The company has a line of family-designed, attractive cartons, each of which illustrates the toy in color and—an increasingly important trend—designates the age group for which the toy is best suited. More than anything else, the package answers the most frequent question from toy

shoppers: "What have you got for a child X years old?"

Childhood Interests' line is only one among many which the editors of MODERN PACKAGING could have selected to illustrate classic informative packaging in the toy industry.

It should be noted that the informative aspects cover more than just copy, color and illustrations. Good packages also draw strength from transparency, since there is nothing that sells faster than sight itself. This undoubtedly accounts for the growing use of cellophane and polyethylene bags, window cartons and many clear acetate and polystyrene rigid containers.

Greater attention is being accorded all these ingredients of informative packaging because of the sweeping changes in the distribution of toys, previously pointed out. The most exacting demands are, of course, made in the new-found business in supermarkets where, it has been said, the package has a fleeting 30 seconds to coax a sale.

Rack-jobber sales

Toy manufacturers generally have entrusted their supermarket sales to the great tactician of non-food merchandising, the rack jobber, who knows at first hand what is required of the package on self-service shelves.² A leading authority on the subject, Arthur Weiss of Acme Sales Co., Inc., Atlanta, Ga., has been busy counseling toy manufacturers. He says:

"We find that the toy manufacturer is definitely interested in rack-jobber business. However, some manufacturers fail to realize that they must package their items in attractive containers rather than in the unattractive chipboard they have been using.

"Where they have spent thousands for dies to produce an item they will spend only half a cent for a label instead of having it lithographed or a three-color print job. In most cases they have a label which says *toy* but which fails to describe the item. These manufacturers have forgotten that the label is their private salesman. Some of these labels don't even have a price spot to mark the merchandise; others are without hang-up holes or eyelets for use of our routemen."

No one knows for sure the dollar

¹ See "30 Toys Under One Name," MODERN PACKAGING, Sept., 1953, p. 135.

² See "The Rack Jobber's Viewpoint," MODERN PACKAGING, July, 1953, p. 81.

These packages have both sales and play value



DRESSING TABLE is formed from the folding carton used for a child's play cosmetic set by the Merry Mfg. Co.



CRADLE THAT ROCKS sells Shush-a-Bye Baby doll for Darling Doll Corp. It's a one-piece folding carton.



DE LUXE SUITCASE forms permanent home for Effanbee's DyDee Baby and her wardrobe.

volume of toys passing through supermarket turnstiles, but it is certainly big and growing. In 1950 only about 2,000 supermarkets sold toys and then mostly odds and ends. By last year the number had jumped to 11,000, or more than half of the nation's 21,000 supermarkets. The supermarket's interest in toys is explained by an average mark-up of 25%, as compared to the food-store average of around 15%—and this without the headaches and cost of handling perishable products.

Mr. Weiss' sage advice hasn't fallen on deaf ears, judging by the multitude of supermarket-designed packages now in the running. A package entirely different from that used in other outlets may be used for the supermarket. The toy manufacturer usually reserves items under \$1 for this trade. He may put his product in a window carton or in a cellophane or polyethylene bag, if possible, for greater visibility. He may even go so far as to reduce the physical size of the package out of regard for the severe space limitations in the self-service store.

A line of polyethylene-bagged rubber toys manufactured by Bayshore Industries, Inc., Elkton, Md., copes with space limitations with specially punched headers which can be hung on wire racks for supermarket selling.

Bagged toys have become almost synonymous with supermarket selling. Lighter-weight toys have been bagged for a long time in cellophane, but the greatest gains in this field have been made recently by the newer workhorse of packaging—polyethylene film. In this connection, the most cheering news to the industry of late has been the two-fold im-

provement in the film—improved clarity and clear, scuff-resisting printing on treated film.

Polyethylene's popularity in packaging the "hardware" toys is for the basic reasons often cited in these pages. It's tough and resists tearing, provides transparency, is low in cost in proportion to the selling price of most toys and often has attraction as a re-use bag or as a storage place for the toy after play.

Bags—whether used to package candy, produce or toys—offer a way to unitize a product or to bring two related products together in the same container. Polyethylene film, largely because of its strength, is consistently used this way in the toy field. A multiple sale of a baseball glove and a ball, selling for \$1.25, is made by McKinnon Leather Products Corp., New York, by combining them simply in a polyethylene bag with a saddle

label for supermarket distribution because this is the kind of package rack jobbers demand.

Special problems

While the bag with an informative saddle label is highly acceptable for supermarket selling, it may not be as cordially accepted in a different type of outlet, such as the toy-specialty store, which will often be handling a more expensive version of the product anyway. McKinnon Leather, for example, goes to the additional expense of a window carton for \$1.50 and \$2 versions of its glove-and-ball set to suggest higher quality.

One special problem is frequently overlooked: the fact that millions of dollars in toys are sold every year through the mails. And that opens up the need for special packaging.

Probably the world's largest retail business devoted exclusively to toys

SELF SELECTION is today's selling technique in department-store toy departments. As in supermarkets, it puts the whole burden on the package. This typical department is J. W. Robinson's, Los Angeles, using a method of display and stock control called Vizusell.



and games is that of F. A. O. Schwartz, with headquarters in New York. In its retail display rooms, Schwartz will show a few packages on a clerk-service counter, but when an item is purchased, more often than not it is mailed or delivered to the customer from the stockroom. For these orders and those produced by its 100-page mail-order catalog, the company needs more than a paperboard display carton.

Companies like Schwartz flatly refuse to take on the added packaging expense and insist that the manufacturer supply a paperboard sleeve or a corrugated mailer in the first place. One large department store will pay a premium for toys having outside containers for mailing or delivery, and argues that the toy manufacturer can do such packaging cheaper.

The toy manufacturer is in a cost squeeze on this point. A number do provide sleeves and mailing cartons at no extra cost. One organization manages to cut down expenses somewhat by eliminating the top lid of its usual lithographed, two-piece, telescoping set-up carton and enclosing just the base section in a mailer when the item is destined for delivery rather than display.

Special problems should not, of course, detract from the true objective of the package: to sell the toy and to protect the contents at the lowest possible cost. The designer—and more professional designers are at work on toy packages today—must consider the multitude of outlets and the fact that, even in the large department stores, there is a swing toward open display and self selection.

Design considerations

Besides bags, what are the typical packaging forms in the toy industry today? What are the reasons

for using them? And what are outstanding examples of good design?

Toys are not standardized in convenient shapes and sizes like crackers and candies and cigarettes, and any one toy or game may be made up of many parts or components.

The box or carton, whether of the set-up or the folding type, is the perennial standby in toy packaging due to the fact that it provides rigidity, can be easily displayed and stacked, and provides all kinds of possibilities for securing components.

Though the carton may be an old timer, it is surely not being used in the same old ways. The most widely used type of carton contains either dividers or a platform with die cuts, staples or other holders for parts.

Although paperboard is the traditional material for platforms, a very new and important trend is to the use of low-cost vacuum-formed plastic sheet, which can readily be shaped to the exact contours and depths of the toy or set components. An excellent example is provided by the A. C. Gilbert chemistry sets.³

For packaging a complicated tea set, the Worcester (Mass.) Toy Co. has a paperboard die-cut platform in both the top lid and bottom shell of a hinged paperboard carton.

Improvements in full-color printing on boxboard⁴ have enabled toy manufacturers to adopt beautiful lithographed cartons, showing the contents of the package or what can be made from it. More color is certainly being used and cartons are more simply designed.

The best stopper colors for both children and parents seem to be bright, glossy reds and yellows, acc-

cording to Stanley D. Levits, advertising manager of the Statler Mfg. Co., Chicago. But uniformity is dangerous.

While little agreement can or should be found on color, it is established that more colorful packaging is the one yardstick being followed by almost all manufacturers.

A company that has done some hard thinking about the design elements which make a good toy package is the Embossing Co. of Albany, N. Y. Here is a company that has been in the business since 1870, manufacturing blocks, dominoes and checkers. But, by the company's own admission, it had until recently nothing but a "hodgepodge of 60 badly designed box wraps."

Striving for more of a family design, the company already has redesigned 20 of these packages. A uniform concept is being carried out with the same basic colors of blue, red and black on each of the box wraps. The design is further enhanced by many variations of these colors and by intriguing picture situations. All of the designs have an uncluttered look, with generous use of white space and drawings.

Putting the package to use

In his eagerness to offer some little extra which may put him ahead in the sales race, the toy entrepreneur also is turning more and more to the package which has play value in its own right and is therefore an integral part of the toy. The list of examples is long and impressive.

A window box introduced by Flagg & Co., Jamaica Plain, Mass., is used to great advantage by employing lid die-cuts as house windows with a doll in each window. A similar idea was carried out by the Ideal Toy Corp., Hollis, N. Y., by having three acetate windows in a folding carton lid for a

³ See "Vacuum-Formed Plastics," MODERN PACKAGING, Feb., 1954, p. 108.

⁴ See "Trend to Fine-Screen Printing," MODERN PACKAGING, June, 1953, p. 99.

DOUBLE function is served by telescoping fibreboard cylinder for Ideal's inflatable wading pool. It is both a package and a pump.

IMAGINATION in silk-screen decoration turns this all-acetate box for a Holle Toy animal into realistic setting.



"three-ring circus" toy. Auburn Rubber Co. designed a five-color window carton in the shape of a barn for an animal assortment.

A folding carton which is cleverly used as a functioning part of the toy is the Doll Cradle, produced by the Darling Doll Corp., New York. A one-piece folding window carton containing a doll, it creates the effect of a decorated cradle with a hood and rockers. The "rockers," separate die-cut blanks, are inserted in cut outs on the bottom of the carton. During shipment, the hood is folded flat and the rocker blanks folded under it for safe keeping.

A carton with re-use or play value may often stimulate new interest in a toy which has begun to decline in "market interest." An industry in which three years is a long life for a product is always eager for a new packaging gimmick.

A prize example of package function can be found in Ideal Toy's container for an inflatable wading pool. What the company has is a two-piece cylindrical fibre container which also functions as a manually operated air pump for inflating the pool and as a storage container when it is not in use. As a pump, the top half of the cylinder telescopes into the lower portion, forcing air through a check valve which prevents the back flow of air while it is in use. The same principle is used by the DriClad Corp., Rockford, Ill., for an inflatable swimming raft.

Games and hobbies

Once having got hold of a budding consumer through infant playthings and juvenile toys, the toy industry never lets him go. Through skillful building of leisure-time interest in teenage hobby sets, such as airplane and automobile model building and

PRINTED POLYETHYLENE is a workhorse in toy packaging. Bag of Halsam's blocks has a zip-string tie for storing blocks after use.

PHOTO COURTESY MULPRINT, INC.



PHOTO COURTESY AMERICAN METAL SPECIALTIES CORP.



MINIATURE PRODUCTS make play sets realistic and are regarded by packagers like Campbell's Soups as important in building good will.

adult games of both the parlor and lawn variety, this industry now follows the consumer literally from the cradle to the grave.

Thus the industry, in its packaging outlook, should not be thought of as concerned only with juvenile psychology. Package appeal and packaging convenience have played a big part in building this phase of the business and the industry has become expert in packaging for every age level.

Hobbycraft, although it is aimed first of all at teenagers and sub-teenagers just emerging from the toy stage, has a particularly wide appeal. Many a father finds relaxation in it along with his youngster and many a grandfather on retiring from business has been known to become a regular patron of the corner toy store for model building kits.

Not since the days of Monopoly has a game been swept to success on a sudden wave of popularity as quickly as what is now a familiar word in every parlor—"Scrabble."

The initial production was the output of one lone man, working in a Connecticut barn. By last summer about 200 Scrabble sets were sold a

week. Suddenly, thousands of orders deluged the manufacturer. Not being geared for large production, the manufacturer turned the job of making the game over to Selchow & Righter. The basic package is a plain, two-piece, set-up box with a simple "Scrabble" label on the top lid.

Since a game can be meant strictly for a child or strictly for adults or for both—a clue to the age bracket is called for on the package.

The nation's current "do-it-yourself" craze has kindled new interest in hobbycraft, with father and son building fire engines, old-time automobiles, famous ships of history, airplanes, etc.

Colorful, informative toy packaging is often at its best here. Before a person will buy, he must be assured how easy the model is to build and how pleased he'll be to add it to his collection. Toward these ends, a finished model is invariably put on display with the packaged kits so that the hobbyist can inspect it in detail.

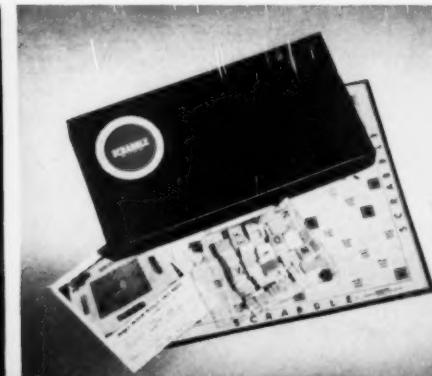
Component packs

A comparatively new trend in the toy field today is the component (*This article continued on page 211*)

THE CARRY CARTON has a place in games packaging, too. Design helps suggest setting for game of ten pins and upped sales of Sollman & Whitcomb set.



EFFECTIVE PACKAGING enables manufacturer to capitalize on a game suddenly swept to popularity like Scrabble, now a household word.



Design

Two travel packs for powdered detergent capsules



New space savers are Sud-Zettes, capsules filled with powdered detergent that will do light overnight laundry for the travelling woman. The capsules, made of hard gelatin and especially colored in flaming pink, come in two different types of packages, one holding 16 and the other 44 Sud-Zettes, product of the Q-W Laboratories. The 16-capsule container is a plastic envelope die cut from press-polished vinyl and electronically heat sealed with a $3\frac{1}{32}$ -in. straight stitch seal with pie-crust edges that are designed to prevent seepage of water into the kit. A printed paper label is fitted into the kit so that the product name appears at the front of the package, and directions and sell copy at the back. The 44-capsule container is a transparent polystyrene hinged box fitted with inner paper dividers to hold the capsules in place. Each capsule contains sufficient detergent for a basin of water.

Modern look for Baker's Cocoa trademark figure



"La Belle Chocolatiere," Baker Cocoa trademark figure familiar to generations through more than 100 years of use (see "Baker's Breakfast Cocoa," *Packaging's Hall of Fame*, MODERN PACKAGING, March, 1950, p. 90), is now as modern as the most modern supermarket on the new Baker's Cocoa can label. The former full-color figure, from an original painting, has been replaced by a poster-like reproduction of Madame La Belle Chocolatiere dominating the face of the new package. Across her figure is a band carrying the name, "Baker's." The starched white apron and cap, plus the rich cobalt blue skirt, stand out boldly against the bright yellow background. The dark brown in her jacket and on the tray is repeated in the ribbon and in the broader band around the bottom which serves to tie all four sides together. The diagonal bright red sticker reproduced on the face of the package announces the new product formula.

CREDITS: Design, Jim Nash, New York. Can, American Can Co., New York. Label, U. S. Printing & Lithograph Co., Cincinnati.

Histories

How much is left?

A "zip-out" window that enables the consumer to see at a glance just how much of the product remains in the bottle features the new label for Kraft All Purpose Oil—a new Kraft Foods Co. product being strongly promoted in an extensive national advertising program. All-purpose feature of the new oil, which is now made from refined cottonseed oil, is highlighted in the eye-catching green, red, gold and white wrap-around paper label. A metal screw cap replaces the formerly used vacuum-type closure. An arrow on back of the label indicates the point where there are "approximately two cups left"—the time to "order more." Removal of a perforated tab on the back of the label creates the window.

CREDITS: Label, Walter M. Carqueville Co., Chicago. Jars, Owens-Illinois Glass Co., Toledo, Ohio; Ball Bros. Co., Muncie, Ind.; Hazel-Atlas Glass Co., Wheeling, W. Va. Caps, Owens-Illinois Glass Co.



Designed for U.S. market

The German firm of Rud. Osberghausen, which developed this new "double slant" Fasan Durasharp razor reported to be scientifically engineered to fit facial contours, engaged an American firm to design the packaging for the product's introduction to the United States market. The packaging program included designs for a razor carton, blade dispenser and point-of-sale display. The designs were forwarded to Germany, where both packages and display are produced. The razor comes in a smartly designed black carton overprinted in orange with reverse white. The same design is used for the paperboard card that slides into the open face of the styrene plastic blade dispenser. The dispenser also provides for the disposal of used blades at the bottom of the case. Cellophane wrap on the dispenser has a yellow color patch with the words "5 blades" appearing in black. Ten dispensers are attached to a display card.

CREDIT: Design program, Raymond Loewy Associates, New York.





TINY SWITCH CONTROLS are completely protected in individual sealed pockets. Compartmented polyethylene bags come in rolls of a thousand pockets, can be cut off at any desired length. Idea was adapted from silverware industry.

Compartmented bags

Simple polyethylene-film construction originated for silverware

becomes efficient protective package for tiny parts

Another striking example of how one idea in packaging may inspire others in totally different fields may be found in the way compartmented bags of polyethylene, originated for the silverware industry, are spreading out into the industrial field as a method for packaging and protecting delicate precision parts.

The method has many applications for operations that may not be of sufficient volume to justify high-speed

unit-packaging machines or may not, for some other reason of handling, be suitable for such machines.

Among the first to use these compartmented bags for silver was the International Silver Co., Meriden, Conn. Having demonstrated the effectiveness of factory-sealed polyethylene packages* for individual

pieces of silver, this firm discovered that a hand-filled polyethylene bag with compartments made by heat sealing offered a convenient means of protecting various merchandising units for the dealer, such as place settings, a baby spoon and fork, etc. The bags are designed to serve the same purpose for silver as traditional flannel tarnish-proof bags with the added advantages of economy and visibility permitting quick pattern

*See "Sterling Silver in Polyethylene," MODERN PACKAGING, July, 1949, p. 76, and "New Techniques for Silver," MODERN PACKAGING, March, 1954, p. 194.

identity. The compartmented bags also have won favor with consumers because of their protective properties for storing silver in the home.

In Ashland, Mass., Fenwal, Inc., a manufacturer of electric temperature-control devices, was looking for a better way to package miniature Thermoswitch controls. The company's packaging engineer saw the compartmented bags that were being used for silverware. It gave him an idea. Polyethylene would offer sufficient protection against water-vapor transmission to prevent rust and corrosion. Its transparency offered visibility for identification. Individual pockets for each miniature switch control would protect each item from marks or scratches and permit economical and efficient grouping of orders in desired numbers of pockets.

The supplier of the compartmented bags for the silver company was called in to develop containers for these precision parts and a method of handling. The method of packaging that resulted from this study has opened up many applications in fields where individual unit protection is required and where it is more convenient to group the items for selling, such as electronic parts, machine parts, precision shafts, gears, cutting wheels, watch parts, lenses, drill bits, electric motor coils, reamers, drafting instruments, storage of X-ray dental film, etc. This method of packaging is also finding application

for efficient in-plant handling of parts.

The compartmented polyethylene bags are fabricated from continuous rolls of polyethylene film in gauges from 0.0015 to 0.004 in., depending on requirements. The film is folded once lengthwise and heat sealed crosswise at desired intervals to form the pockets. The bags may be made with compartments of any length up to 14 in., with widths down to a minimum of 1 in. inside dimension. The pockets may also be made in varying widths on the same strip to accommodate different-sized products. There is no maximum limit to the width of the pockets, although most specifications to date have been under 8 in. By making the lengthwise fold only part way across the sheet instead of in the middle when the film goes into the heat-sealing machine, a flap may be provided that can be folded over the compartments, a construction International Silver is using for its place settings. Otherwise the film is folded in the middle so that the edges meet. When these edges are heat sealed after filling, each compartment becomes a completely sealed unit by itself.

Up to the time Fenwal investigated these new packages, the bags had been supplied cut to length with a specified number of compartments for a definite number of pieces of silver.

Fenwal's orders for switch controls called for such a variety of quanti-

ties, however, that the firm decided to purchase the heat-sealed compartmented material in continuous rolls containing up to a thousand pockets. In this way, orders may be packaged in any required number simply by cutting off the desired number of pockets from the roll.

A double seal between the pockets is provided, allowing $\frac{1}{8}$ in. between seals for rapid cutting.

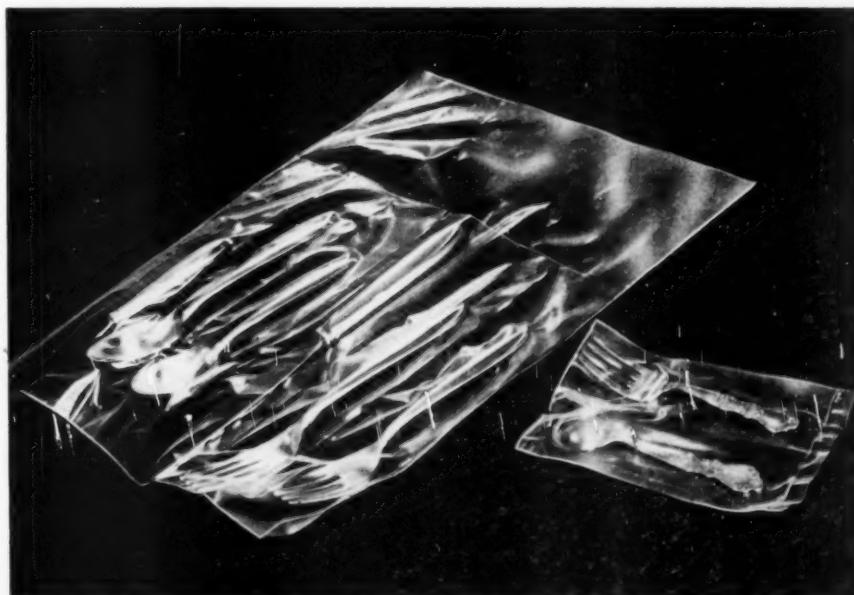
Fenwal does all the packaging of the miniature Thermoswitch controls by hand. The required numbers are counted according to orders, inserted into the required number of pockets cut off from the roll and heat sealed across the top so that each item is separately sealed in its individual pocket.

Packaged switch controls are boxed and labeled for quantity, size and style. Users find the compartmented bags a much more convenient way to keep inventory control of these tiny items and the polyethylene is reported to give excellent protection in storage.

The bags, of course, may be printed if desired with an all-over design so that trade and product identity are evident no matter in what units the compartmented strips are cut.

CREDITS: Compartment bag made by Austin Industries, Inc., 133 E. Main St., Marlboro, Mass., using Du Pont's Alathon #10 polyethylene film and Olin polyethylene film.

PLACE SETTINGS and other selling units like baby spoon and fork are being packaged by International Silver in compartmented polyethylene bags that serve same purpose as the traditional flannel tarnish-proof bags, with added advantages of visibility and economy.



Swing to



PHOTOS COURTESY QUAKER OATS CO.

NO TAPE IS USED in newest version of tear-strip case. Slits in inner liner channel the tear, which is started by scored thumb notch at top of strip.



TOP LIFTS BACK like a hinged lid for easy marking and removal. Note light spot gluing along lifted edge of flap. Quaker is heavily promoting the E.T.O. (Easy to Open) case.

During the past year, a quiet revolution has been taking place in the corrugated shipping-container field. Containers so constructed that they may literally be "zipped" open cleanly and rapidly are finding increased favor for many types of packaged products. And while several different methods of obtaining the easy-opening feature are now in use, the basic objectives sought in each instance are essentially similar.

The steadily growing interest in this new convenience feature for shipping containers appears to stem from two principal factors:

1. Reduction of actual damage to packaged goods resulting from the use of knives, cutting wedges and other opening tools on corrugated

shippers. Many suppliers of cereals, frozen foods and other products have in the past paid out thousands of dollars annually, through their sales representatives, to cover such damage.

2. The desire, on the part of manufacturers, to supply their retailer customers with containers which can be opened quickly and easily, saving valuable employee time, facilitating the price marking of consumer packages and making effective store displays simpler to set up.

Acceptance seems certain to be spurred by amendments to rail and motor-truck acceptance rules, effective May 15, which specifically permit the use of tear-strip corrugated containers, without size limitation. Previous to that date a special per-

mit had been required under Rule 41.

Actual surveys have shown that through the use of tear-open-style shipping containers, retailers can save approximately one-third of the time usually required to open shipping cases, price mark the merchandise and stock the shelves. Because much of this work must be handled during regular store hours, when busy customers are on the move and every square foot of store space is at a premium, anything that can be done by the supplier to speed up and simplify the process is warmly welcomed by store operators. The fact that part or all of the zipped-open case (depending upon the location of the opener feature) makes an excellent carry-home container for use by cus-

tear-strip cases

The zip-open corrugated container is no longer an experiment; big shippers are flocking to it for convenience and protection

tomers constitutes a bonus feature of interest both to the retail outlet and the food manufacturer.

Betty Crocker pie-crust mix, packed in 9-oz. consumer cartons, was a pioneer in the use of easy-opening-type shipping containers. Since the appearance of this package early in 1953¹, a number of other food products have been switched over to some form of tear-open shipper. The same applies to various types of non-food items.

Among the products now being shipped in tear-open corrugated cases are chewing gum, margarine, pre-packaged luncheon meats, soda crackers, cookies, flour, miscellaneous canned goods, frozen foods, biscuit mixes, candy, poultry feeds, household and toilet tissues, household food wraps, canned beer, cereals and cellulose sponges. And the list is growing daily.

From the damage standpoint alone, it is not difficult to see how the new tear-open feature makes sense. When a shipping container is opened by means of a wedge or other cutting device, a fraction of an inch in the depth of the cut may spell the difference between no damage and severe damage to inner bags or cartons which may render them unsalable. A cutter properly set for one manufacturer's shipping case may slash too deeply through other cases. Also, as with any cutting tool, much depends upon the skill and experience of the person wielding the blade, whereas even the most inexperienced stock boy can quickly become an expert at handling tear-open containers. Another plus value of the easy-opening containers, of course, is the fact

that they do away with one of the most common causes of employee cuts and minor injuries.

Whether or not a manufacturer should adopt a tear-open-style shipping container depends upon a number of considerations which he can best judge for himself. Naturally, such containers cost more than others without this feature, but the added cost may be only a fraction of a cent per case, depending upon the type

of opening device used, the size of the case and number of units involved. Against this added cost must be weighed the important reduction in merchandise damage, the good will of the retail organization for whom time is being saved in opening boxes and setting up displays, and improvements in store displays themselves made possible through the use of container bases.

The unit value of the consumer

Four big advantages of the tear-strip case

SAFER OPENING is a big point for Oscar Mayer. Careless opening might slit film on Mayer's special vacuum pack and destroy product protection.



EASIER MARKING of price means valuable manhours saved for supermarket operators. Price marking is reported to be 45% faster.



EASIER REMOVAL; shelf stocking is reported at 41% faster for this product.



HANDY RE-USE of container section is as a customer carry-out.



¹ See "Tear-Tape Shipper," MODERN PACKAGING, March, 1953, p. 83.



PHOTO COURTESY KIRBY PAPER CORP.

TEST SHIPMENT of McCormick pepper in containers having slit-liner type of opening device shows excellent condition of cases on arrival. Note instructions and warning not to cut case. Label revision is indicated, however, to avoid destroying brand name when cases are torn in half.

packages involved and their relative vulnerability by a knife or other sharp object also enter into the picture. Obviously, a slashed open box of cereal cannot be placed on the retail store shelf, but a can with a mutilated label might get by if the damage is not too severe.

From the standpoint of the retailer, the time saving made possible through the use of easy-opening shipping containers is one of the most important factors favoring their adoption. Although the relative amount of time saved in opening, pricing and stocking merchandise received in such containers will vary with the type of product, number of units packed in the mother container and other considerations, a reasonable average figure, based on numerous reports, appears to be about one-third. This means that with tear-open-type

shippers, retail outlets can open, price and stock about 100 such cases in the time required to handle 65 cases not equipped with some form of quick-opening device.

These figures were borne out in a study recently conducted by The Winston & Newell Co., wholesale grocer organization for Super Valu stores, in conjunction with General Mills, Inc., several other product manufacturers and a major supplier of tear-open-style shipping containers (1).² The purpose of this survey, conducted in a supermarket outlet at Golden Valley, Minn., was to determine the time necessary to open, price mark and shelf stock various types of food products packed in conventional cases against goods in tear-open-style containers. Products

² Numbers in parentheses identify "Sources of Supply" at end of article.

involved included dry cereals, canned goods, packaged cake mixes and waxed-paper packs. The easy-opening shipping cases were equipped with a filament-tape type of tear strip (2) which is applied to the inner surface of the box during the manufacturing process and is now available through a number of container suppliers.

Tabulation of results on this survey showed a total over-all time saving of 34.5% for all products involved. This was based on a saving of 13.9% in opening time, 44.9% in price marking and 40.6% in shelf stocking. The study was not conducted in the form of a "speed test"; savings quoted were derived from times weighted to a normal 8-hr. work day with adequate allowance for rest and delays. The study was made in a market having very efficient operation, with over 50% of the standards established by its chain headquarters. Thus it is estimated that in a less-efficient operation, even greater time savings could be realized through the use of tear-open-style boxes.

For individual products and opening methods, the time savings recorded were as follows:

By products

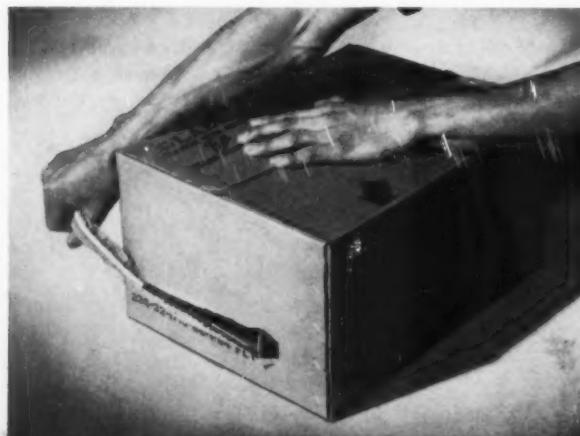
	Tear strip showed total savings of
On dry cereals	44%
On canned goods	29%
On cake mixes	42%
On waxed paper	31%

By opening methods

Tear strip vs. wedge method	39.4% faster
Tear strip vs. cutting device	30.5% faster
Tear strip vs. hand method	31.0% faster

Five different ways

COTTON TAPE adhered to inside surface of the box, with a scored pull-tab starter, is easy-opening device used by Ball Bros. Co. on re-shipper containers for their glass jars.



TAPE-JOINT container has a patented "Pull-Tab" which is concealed under the corner tape. This container is of the slit-liner type of tear-open construction.

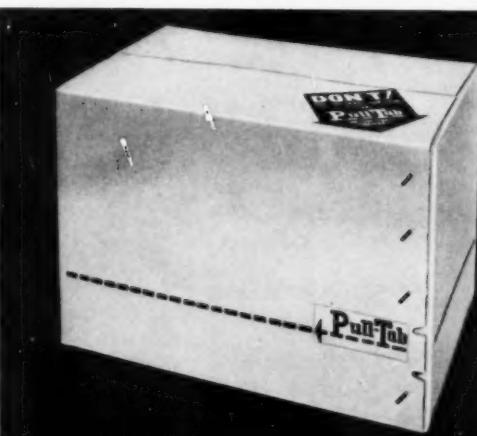


PHOTO COURTESY WALDORF PAPER PRODUCTS CO.

Convenience as well as time-saving features of the tear-open-type shipping-ease are of interest to the retail store operator. For example, if a location near the center line of the side walls is used for a two-tier case, all items are immediately exposed as soon as the tear strip is pulled and the top of the case lifted off. If top or bottom opening is used, the opened case is still much more accessible than is the case with conventionally opened containers; there are no awkward flaps to interfere with price marking or removal of the individual packages.

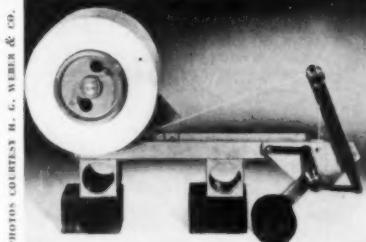
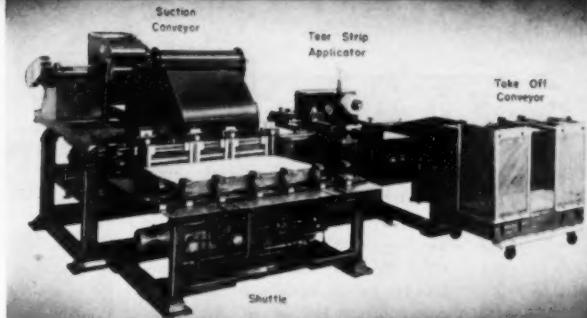
When the bottom of the case is used as a tray, mass store displays can be built quickly, since there is no need for clerks to handle the unit containers. Very little handling time is required on the selling floor, as merchandise can be opened and price marked in the back room before removal from the parent container. With a center-opening location, the container is automatically divided into two convenient carry-out boxes which can be used at the check-out counter for customers' purchases, requiring no extra clerk time to tie up flaps. A point worth emphasizing here is that this extra use for the boxes carries the manufacturer's name directly into the household, where the container is likely to be kept for storage or other service.

Two basic methods

Two basic methods are now available to corrugated box manufacturers for production of tear-open-style shipping containers.

The first method involves the use

AUTOMATIC machine, with one-man push-button control, designed for applying filament tear tape to corrugated container blanks at more than 60 per min.



TAPE-APPLYING attachment for firms desiring to apply tear-strip tape at the corrugator. Filament tape feeds from roll and beneath a buffering roller which buffs it to the corrugated board as it flows under the attachment. This is a mock-up to show the principle.

of a strip of pressure-sensitive filament tape which is applied directly to the inner surface of the container during the manufacturing process. The end of the tape is turned back at the manufacturer's joint and adhered to the outside of the box, serving as an easily grasped pull tab; this feature of the opening device can also be varied, if desired, as pointed out later. When the tab is pulled and continuing pressure exerted, the tape cleanly severs its way through the wall of the container along a line determined by the placement of the tape. Utilizing the same principle, cotton tape or other materials having suitable tensile strength may also be employed as the cutting medium.

The other method being used in the production of tear-open corrugated containers involves slitting the liner stock of the box and providing an initiating notch in the container wall which may be grasped between the fingers. With this type of opening device, the slit liner itself serves as the medium which cuts through the wall of the container for quick, easy opening. No actual tear tape is added to the box in this instance; the slit-

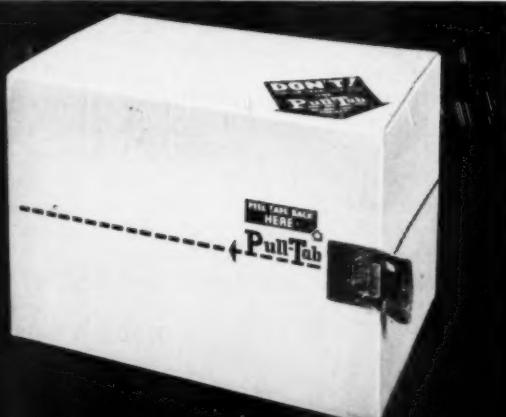
ting or "scoring" of the liner determines the width and location of the opening strip. From the technical standpoint, one method, on which patents are pending, covers the slitting of the liner stock just ahead of the board-combining operation, while another involves slitting through the liner ply of the combined board. In the finished container, both methods appear to produce a similar result.

The slit liner and tear-tape opening methods require different handling at the box manufacturing plant,

of starting the zip

STITCHED-JOINT CONTAINER simply has notches to help start tear along slit-liner channel. The slit liner itself is the medium which cuts through container wall.

PHOTO COURTESY WALDORF PAPER PRODUCTS CO.



TWO WAYS to use filament-tape tear strip. Left, tab of tape adhered to outside of box projects from manufacturer's joint. Right, scored tab for stapled or glued-joint boxes.

JIT COMPANY
T COMPANY OF AMERICA
O, ILL.

TO OPEN
LIFT WHITE TAPE
THEN PULL TO THE LEFT



PHOTO COURTESY MINNESOTA MINING & MFG. CO.

Big-name packagers among the users of tear-strip

VARIATIONS in box styles and tear-tape starting tabs. Labeling in each case calls attention to easy-opening feature to forestall cutting. Burkhardt's beer container splits into two identical carry-home boxes of 12 cans each. All these containers are of filament-tape constructions.

PHOTOS COURTESY MINNESOTA MINING & MFG. CO.



but there is no difference in filling or closing of the containers at the user level; both are handled the same as standard shipping containers having no opening device.

With the slit-liner type of container, the inside facing sheet receives two parallel slits just prior to or after the board-combining operation; these provide the ribbon of material which actually tears through the wall of the box when it is opened. The starting feature, commonly handled in the form of an H-shaped die cut affording one tab which may be pushed inward so that the other may be grasped and pulled outward, can be applied in various ways. Usually it is handled by means of a special attachment on the printer-slitter. Production speeds on containers carrying this type of opener are only slightly lower than on standard boxes and the added cost of the tear-open feature is nominal. Of course, the box manufacturer must exercise care to insure that the slitting is confined to the liner stock and does not penetrate the corrugated material, since this would impair the strength of the container.

On containers employing the filament-tape type of opening device, various pieces of special equipment (3) have been designed to apply the tape to the fibreboard blanks, or to the board as it flows from the corrugator. The original piece of automatic equipment, still being used exten-

sively, consists of a shuttle-conveyor section, a taping mechanism and a take-off conveyor. This machine handles slotted corrugated and solid fibre container blanks in sizes ranging from 24 by 48 in. to 48 by 96 in. Its speed permits handling more than 400 board feet each minute. Fully adjustable for different carton sizes, the machine is designed for one-man, push-button operation. The $\frac{1}{4}$ - or $\frac{3}{16}$ -in.-wide filament tape feeds automatically from a level-wound 4,000- or 6,000-yd. roll and is automatically applied to the blanks, severed by a solenoid-operated knife and folded under the leading edge of the blank to form the tear-strip tab, the complete operation requiring less than one second.

A second piece of equipment performing the same operations as the fully automatic machine is a new hand-fed portable unit, measuring only $3\frac{1}{2}$ by $5\frac{1}{2}$ ft. in size. Designed primarily for limited production of the tear-strip containers, it can also be adapted to fully automatic operation if necessary. The latest piece of equipment available in connection with this method is a special attachment which applies the tape directly at the corrugator. Mounted on guide bars, it consists of a tape-roll mounting with tape-roll lock and a friction adjustable drag for controlling tape tension. Tape feeds from the roll and beneath a buffering roller which buffs it to the corrugated

board as it flows under the attachment, whose location on the corrugator is just after the "double-backer" and ahead of the "slitter-scoring." To facilitate use of the tape applied in this manner, it is necessary to die cut the container at the "zipper" line to gain access to the tearing tab, which is laminated inside the container. On containers with stitched or glued manufacturer's joints, the die cut is made right at the joint; on those with taped joints, an "H" type cut is made down the side of the case along the tear line.

Testing and acceptance

Until last month, rail shipments of containers incorporating the slit-liner type of opening device were made under special permit, since they were not yet covered under Rule 41 of the Consolidated Freight Classification. Effective May 15, however, Section 2 of Rule 41 was amended to permit the use, without size limitations, of containers with this opening feature, provided the strength of the box is not materially affected. Under the amended rule, boxes "may have inside facing cut or scarified to form not more than two ribbons for easy opening, provided further the corrugating medium is neither cut nor crushed nor otherwise damaged." Basically similar approval covering shipment of these containers by motor truck has been granted through amendments to National Motor

containers



Freight Classification No. A-1 and Supplement No. 6 to National Motor Freight Classification No. 12, effective April 20, 1954.

Prior to official acceptance of the slit-liner containers by carriers, extensive shipping tests were conducted for a period of approximately a year under special permit, involving a wide variety of products and container sizes. Among the items involved in these shipments were black pepper, canned sauerkraut in No. 2½ cans (weighing 45 lbs. per case), sanitary napkins and various cereal products. Quaker Oats Co., Chicago, shipped its first test run of 27,085 tear-strip boxes containing rolled oats and pancake flour. Only 83 boxes (3½ of 1%) of the total shipped were damaged and in no instance was any damage ascribed to the easy-opening feature. These were end-opening-style boxes with two opening strips located on the top panel.

The results of these and other shipping tests, all of which indicated that the strength of the containers was not materially impaired through incorporation of the slit-liner opening device, were confirmed by extensive tests conducted by a container-testing laboratory (4) for the Classification Committees. These tests, covered in detail by a report issued Dec. 14, 1953, showed that composite loss of strength due to incorporation of the slit-liner feature was less than 3%.

The purpose of the laboratory tests

was to determine and compare the compressive resistance—in the top-to-bottom, end-to-end and side-to-side directions—of conventional and slit-liner corrugated boxes of two different sizes. The tear-strip feature consisted of two parallel slits in the inner facing and the easy-opening band thus provided was positioned in the center of one lot of each size and off-center in another lot. Materials tested consisted of 192 corrugated fibreboard boxes divided into six groups of 32 each. All boxes contained vertical A-flute corrugations and facings of nominal 42-lb. Four-drainer kraft. Prior to testing, all boxes were conditioned to produce a moisture content equilibrium.

Ten sealed boxes of each group were then individually subjected to top-to-bottom compression tests and a similar number to end-to-end and side-to-side compression tests. Unsealed boxes of each lot were used for combined-board bursting tests and combined-board caliper determinations. If averages of the three directions of compression are considered, these tests indicated that the "center-slit" boxes had substantially the same compressive resistance as the "plain" boxes, while "off-center pull-tab" boxes were less than 5% lower. Examination of all boxes compressed in the end-to-end and side-to-side directions indicated, from the nature of the failure, that the slitting had no apparent effect on their rigidity.

Typical applications

While space does not permit a complete listing of the many products now going to market in one form or another of "tear-open" shipping container, the following paragraphs will indicate some of the principal types of products covered and the particular advantages which have resulted in some instances:

General Mills, Inc., which pioneered the use of the filament-tape type of opener early in 1953 with its Betty Crocker pie-crust mix, is probably the biggest single user to date. Based on its favorable experience with initial sectional tests covering several brands of packaged foods which demonstrated the potential savings in time and labor costs to retailer customers, General Mills has now extended the use of the tear-strip containers (5) to all full-size cases of its national brands of packaged food products, as well as several

of the more important sectional brands.

A similar type of easy-opening container has been adopted by the O-Cel-O Corp., division of General Mills, Inc., Buffalo, N.Y., for its new utility-size "moist-pack" cellulose sponges, which are specially processed and sealed in polyethylene bags so that they remain soft and flexible all the way to the retail consumer. Through the use of the tear-open-style containers, the sponges can now be opened and price marked without danger of damaging the polyethylene bags. Also, due to the location of the tear opening, an entire row of the sponges may be lifted out of the box at one time in stocking retail sales shelves, whereas otherwise they would have to be handled individually.

Quaker Oats Co., Chicago, is currently perhaps the largest volume user of the slit-liner type of easy-opening shipping case (6). According to Myron J. Aubineau, vice president in charge of purchasing, Quaker's new E. T. O. (Easy-to-Open) case is now being used to ship most Quaker products and soon will be used for all of them. "For nearly a year," he stated, "test shipments were made to see how the E. T. O. case withstood transportation and warehousing hazards. It came through with flying colors."

Through discussions with food distributors, Quaker was able to include, along with the opening features of the new case, many other innovations helpful to the trade. All four sides of the container have a clear and adequate description of the product to make identification faster and easier, particularly in poorly illuminated storage areas. In addition, a system of numbering has been set up, similar to the Dewey decimal classification used by public libraries, in order to group products and simplify the warehouse operation. Combined with five different color designs, this numbering system, incorporating 2-in. block letters, makes each type of product and consumer package size easy to identify immediately. "Deal" containers are plainly marked to distinguish them from regular stock.

Quaker is currently running large-space advertisements in 11 food-trade magazines promoting the new E. T. O. shipping containers. One of these ads calls attention to their advantages as follows: "Two zips and a



NO TEAR STRIP AT ALL, but a special system of perforations and non-glued areas by which end flaps of carton can be split open by slight finger pressure represents Lucky Lager's interesting answer to the easy-opening trend. Carton is said to have withstood shipping tests well.

rip open new Quaker ETO shipping case. Less work for you—just follow the directions printed on every case . . . pull up tabs . . . zip along arrows . . . lift up top . . . the case opens easier and *faster*. There's no danger of cutting or damaging the products inside because you need no cutter or knife to open the new Quaker Easy-to-Open container. It's easier, too, to mark the prices and stock your shelves. When the E. T. O. case is opened, Presto! the packages are all lined up ready for quick price-stamping and transferring to your shelves or building displays. Use the empty cases for your carry-out orders. They'll hold as many of the housewife's groceries as ever before . . .

Another user of the slit-liner type of quick-opening corrugated container (7) is Oscar Mayer & Co., a leading independent meat-packing organization headquartered at Chicago and Madison, Wis. Products for which Oscar Mayer is currently making use of such boxes include liver sausage in saran casings and pre-sliced sausage and loaf products packed in $\frac{1}{4}$ -lb. vacuumized consumer packages. These unique packs, an Oscar Mayer development, consist of a rigid tin base, similar to the end of a can, on which the sliced meat is placed and covered by a sheet of transparent

saran. The plastic material is fastened to the edge of the metal base by means of a crimping operation, folded beneath a plastic strip which provides an airtight seal. Oscar Mayer's use of the tear-open shippers for these two types of products is based solely on considerations of retailer convenience and product protection; the use of a knife or other cutting device involves too great a risk of damaging the consumer packages, destroying the vacuum protection and rendering the products unsalable.

Consolidated Products Co., Danville, Ill., utilizes a combination of a scarified-liner corrugated shipping container (8) and a sealed moisture-proof inner bag to produce a convenient self feeder for poultry. After tearing off the top of the box, the user then punctures the inner bag, allowing some of the chicken feed to escape into the box and converting it into a self feeder. Another user of the same scored-liner type of box is the Lusk Candy Co., Davenport, Ia., which has adopted such a container for candy suckers fastened to paddles and packed 36 units to the box. The Lusk easy-opening container is so designed that after opening it is a self-merchandising display unit.

Ball Bros., Inc., is using tear-open-style shippers (9) to carry glass jars and other containers to its customers. Actually, these are reshippers, since after filling, the jars are returned to the boxes and they are sealed for delivery to warehouses and retail outlets. Consequently, many of these shipping containers carry the brand name and related information covering the product to be placed in the glass packages. The boxes are sent via rail or truck from the Ball Bros. plants with the top flaps folded down but left unsealed so that jars may be removed and placed on the filling lines. At the retail outlet, the tear-opening device is brought into play when the glass-packed merchandise is conveniently removed from the shipper and placed on sales shelves.

The style of self-opening container being used by Ball Bros. incorporates a $\frac{1}{4}$ -in.-wide cotton tape glued horizontally to the inner facing of the box, a short distance up from the bottom. This tape is applied at the corrugator. Next, by means of a die-cutting attachment on the printer-slitter, a pull tab is cut in one of the panels to facilitate opening. In operation, the cotton tape cuts its way

through the wall of the box, permitting the top to be lifted off and leaving the individual containers in a sturdy tray which facilitates handling and setting up of store displays. The added cost of containers having this type of opening device is said to be approximately $\frac{1}{2}$ cent per box.

Still another quick-opening method for corrugated shipping containers which involves no tape, string or slitting of the liner to form a cutting ribbon has been adopted by Lucky Lager Brewing Co. for use on a corrugated "mother" container holding eight 6-Pak can cartons of Lucky Lager beer. This West Coast brewer is said to be the first in the industry to use this type of shipping container (10). The carton, which can be opened with only slight pressure from two fingers, is the result of a year of experimenting with various zipper, ink, perforation and glue designs. End flaps of the Lucky Lager box have a strip of ink on the outer edge to which glue will not adhere, then a perforation line and a section of two squares to which glue is applied. When the carton is opened, these squares tear at the perforation marks and adhere to the outer flaps. Tests conducted early in April with the package proved that it stood up satisfactorily under shipping abuse. It is interesting to note that the six-can carry-home cartons of Lucky Lager beer also have a tear-open feature which makes it easier to remove the cans from the package.

It is apparent from the preceding paragraphs that today's manufacturer of food items and other products sold through mass-market retail outlets has at his disposal a wide choice of methods and suppliers if he is interested in adopting an easy-opening type of shipping container. Many manufacturers have already capitalized on the competitive advantage provided by this new package feature and others are studying its possible application to their own products. The general feeling among users appears to be that the numerous advantages of quick-opening containers more than offset the slight added cost involved. Meanwhile, box suppliers, machinery manufacturers and other firms serving the container field are continuing their efforts to provide improved opening devices at reduced cost.

The fact that the tear tape or slit-
(This article continued on page 223)

A NEW WAY IN JAPAN

U. S. Army's procurement standards have
introduced the country to modern packaging—
and saved millions for U. S. taxpayers

No longer true is the old statement
that Japan ships everything in a
straw bag tied with a straw rope.

Ancient oriental methods of packaging and shipping in Japan are giving way to large-scale adoption of modern standardized packaging and package handling, based on American procedures, through the cooperative efforts of the Japanese Procurement Agency (a U.S. Army agency), the Japanese government and Japanese manufacturers.

The effect of this work is seen not only in the rapid improvement in both military and commercial packaging—which is saving money for U.S. taxpayers as well as for the Japanese—but in the growth of new Japanese industries for the production of barrier materials, wet-strength papers, pressure-sensitive tapes, water-resistant

U. S. ARMY PHOTOS.



MILITARY STANDARDS of packaging, nailing, strapping and marking are now practiced at a Japanese packaging plant in Tokyo which is supplying the Army Medical Department.



MODERN METHODS are seen in assembly-line construction of military wooden boxes at Tokyo plant. Abundance of labor justifies their hand operations.

The ancient way



TRADITIONAL METHOD in Japan has been to wrap everything in straw paper and to tie package with flimsy straw rope.

adhesives, preservative compounds and fibreboard containers—all of which are now being produced locally and used by local Japanese manufacturers.

A report on this progress comes from the headquarters of JPA in Yokohama.

THE MODERN WAY involves scientific specifications and standards testing. Here bursting strength of a fibreboard container is evaluated by physicist at JPA's testing laboratory in Yokohama.



Today, 95% of the packaging materials procured by the JPA are produced in Japan, the report states. Three years ago that percentage approached zero. Just as impressive are the tremendous strides made in the inspection phase of the adopted program. Improper packaging or packaging materials as the cause of post-shipment rejections has been cut from 80% to less than 0.5%.

What this means to the U.S. taxpayer has been carefully enunciated by Frank J. Spinar, JPA's packaging expert. According to Mr. Spinar, formerly of Forest Products Laboratories, the JPA has spent over \$1.4 billion on goods for the Far Eastern Division of the U.S. Army and Air Corps in the last two fiscal years. To package this vast quantity of materiel, the JPA spent over \$8 million annually.

Need for better packaging

The pressing need for the standardization of packaging was pinpointed at the outbreak of the Korean hostilities in June, 1950. Huge quantities of vital materiel were moving into and out of Japanese-based supply depots. The nature of military shipping and storage required stringent packaging specifications for numerous items that had to be handled over extended periods, stored in a variety of climatic conditions and often broken down into smaller packaged units for distribution over widely scattered areas

upon arrival at point of destination.

The crisis came when officers of the Japanese Procurement Agency approached local manufacturers in an attempt to get badly needed packaging materials. The Japanese manufacturers had their own specifications, methods and materials which failed when measured against U.S. Military Specifications. Millions of dollars of goods contracted for procurement by JPA had to be rejected due to improper packaging. In some cases, replacements of whole shipments were necessitated because of damage to contents.

Under analysis it was discovered that packaging materials specified in the contracts were not always available and, under some circumstances, were totally non-existent in Japan. To correct the situation, JPA went about the task of finding and developing the proper materials, and helping the Japanese to manufacture them.

How it was done

First step of the undertaking was to evolve a practical set of packaging specifications. These covered everything from the type and size of containers to amount and type of preservatives required.

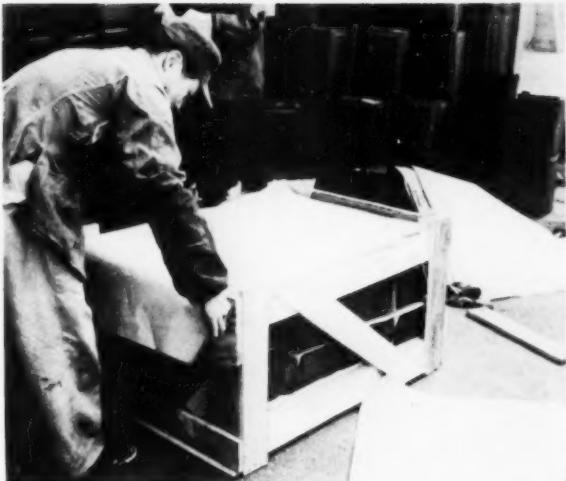
Second step was to translate the proposed specifications into official Japanese documents—a job taken over by the Industrial Arts Institute of the Ministry of International Trade and Industry. This work, now over 50% complete, will aid greatly in breaking down the language barrier as well as offering a guide to the Japanese for further development of proper packaging.

The next step was the training of inspectors. Testing of materials proposed for use by Japanese contractors is conducted in JPA's Yokohama testing laboratories. More than 10,000 tests per year are processed to determine compliance with contract specification requirements. These inspectors supervise every phase of the packaging and packing of goods purchased. Assistance and advice are freely given to contractors in complying with the requirements.

An important method used by JPA to exchange ideas on the many problems encountered in packaging and to pass on information regarding latest developments is the packaging seminar. Army training films on cleaning, preservation, crating, packing and boxing are frequently shown at these



PREVIOUSLY, napalm land-mine cans arrived at a Japanese Procurement Agency plant in traditional Japanese fashion—just tied together with straw rope. Japanese methods failed when measured against U. S. standards.



NOW, 16 napalm land mines are protected in a crate with an approved water-barrier material. This prevents damage to the cans, provides easier handling and insures excellent condition of the mines when they are ready for use.

seminars, which are held periodically in major cities in Japan.

JPA's Technical Information Branch, composed of six Japanese engineers, is set up to offer aid to the local manufacturers in special as well as everyday problems in design and shipment. In an unusual case, special designing in packaging was necessary to ship a 48-ton, 750-kw diesel generator, procured by JPA, from Niigata to Tokyo, which covers a distance of approximately 450 miles.

The contractor, with the aid of the special board, designed the package to clear every railroad tunnel en route. The stator of the generator cleared one tunnel by a scant two inches. As an indication of the size of this job, 22 freight cars were used in the shipment.

JPA is also working for greater standardization of packaging materials and containers—a move which would enable Japanese manufacturers to mass produce cans or containers,

for example, at a considerably lower price per unit.

After two years of research and development, the standard specifications have been adopted.

The results thus far obtained have been so encouraging that a project is now under way to have all U.S. technical services in the Far East adopt the Army Forces Far East proposed packaging specifications, which can be used for all of the general packaging requirements in that area.

NEW IN JAPAN, produced the first time six months ago under JPA specifications, are wirebound boxes and crates. This was a recent packaging exhibit in a Tokyo department store.



Packaging



1



2



3

1 Trade identity and better protection have been given to Home Nursery's rose-bush packages by the use of colorful opaque polyethylene bags. The opaque film, in white and yellow to distinguish different grades of bushes, hides moss and roots. Red and green printing forms a border of roses. Bags, Central States Paper & Bag Co., St. Louis, Mo.

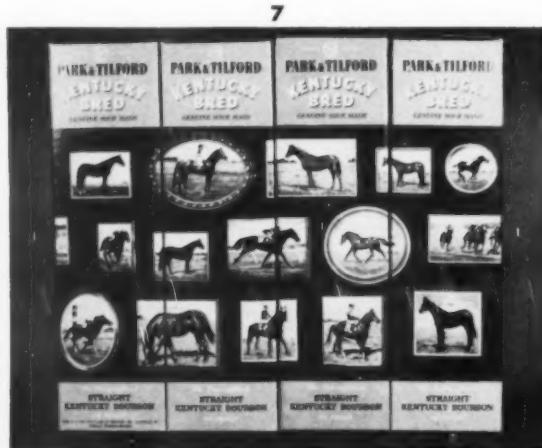
2 What promises to be the first successful aerosol can for a shampoo product is the specially coated 6-oz. can for Sweetheart Shampoo, a new product of the Manhattan Soap Co.'s Sweetheart Cosmetic Div. The lithographed metal aerosol can is colorfully decorated with special enamels in red, white and gold, with a red plastic dispenser. Can, American Can Co., New York.

3 These graceful containers, re-usable as sundae or parfait glasses, were selected by Seasnack Co. for packaging its new line of five Sundae Snack "Ready to Serve" ice-cream toppings. Metal closures are lithographed. Glasses, Hazel-Atlas Glass Co., Wheeling, W. Va. Closures, Anchor Hocking Glass Corp., Lancaster, Ohio.

4 An increase in sales was evident soon after the Barclay Tissue Co.'s packages were redesigned for stronger, more dynamic appeal to hold their own against competition at point of sale. The new packages retain the identity of the former design. Design, Gerald Stahl, New York. Wraps, Bristol Paper Products, Inc., Long Island City, N. Y.

5 The Adams & Peterson Produce Co. has recently joined the list of produce growers doing their own packaging. The company's "Panda" carrots come in a polyethylene bag carrying a cartoon of a panda. Bag, Dobeckmum Co., Cleveland, Ohio.

6 Sue Ann Food Products Co., Inc., puts ready-to-use icing for accurate decorating of cakes and pastry in handy squeezable tubes made of polyethylene. Applicator caps, with openings in several shapes, are interchangeable for decorating pastry in a variety of designs. Cap has a $\frac{3}{8}$ -in.-diameter spout and is about $\frac{1}{2}$ in. long. Tube length is slightly under 6 in., with a $2\frac{1}{4}$ -oz. capacity. Tubes molded by Elmer E. Mills Corp., Sub. Continental Can Co., Inc., Chicago, using Bakelite polyethylene.



7



8

Pageant



4



5



6

7 Park & Tilford "Kentucky Bred" presentation cartons carry a four-sided design showing a series of miniature portraits of Kentucky thoroughbreds in full color. When four cartons are displayed together, the panels integrate to depict a continuous gallery. Design, Nesbitt Associates, New York. Cartons, Lord Baltimore Press, Inc., Baltimore, Md.

8 Hermetically sealed metal cans used for Sears, Roebuck & Co.'s "Cross Country" grass seed are said to control moisture content of the seeds and thereby lengthen their life span; protect against rodent or insect infestation; prevent water damage and contamination by fumes, chemicals or dust. The containers, supplied in 1-, 3- and 5-lb. sizes, are of the standard type with double-seamed ends. Cans, American Can Co., New York.

9 Newest product of the Professional Art Products Co., maker of art and hobby supplies, is this Pearl Spray Kit containing everything necessary for "pearling" items of almost any texture. Formerly used only by professional people, pearl essence packaged in a metal aerosol spray container

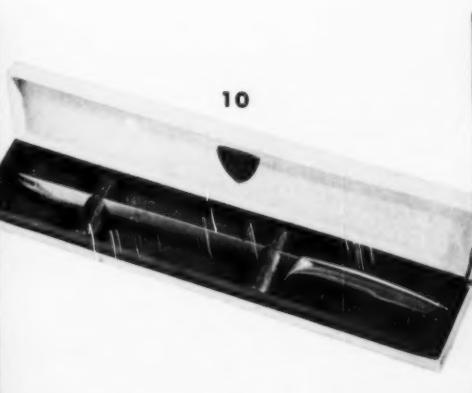
can now be easily applied by anyone. "Spratainer" can, Crown Cork & Seal Co., Inc., Philadelphia.

10 Crimson red velour used as a backdrop in this set-up box for Gerber Legendary Blades' burnished stainless steel carving knife adds a touch of glamour to the product. The box is covered with white paper embossed with a leather pattern. Natural wood rests secure the knife in the box. Gerber's trademark seal is on the inside cover. Box, Pacific Paper Box Co., Portland, Ore. Velour, Nashua Corp., Nashua, N. H.

11 This ingenious container for Wooleo Products, Inc., Hi-Shine shoe polish enables direct application of polish from container to shoes without smearing the hands. It consists of a clear, lightweight tube molded of butyrate plastic, with a black butyrate base and cap. A turn of the base forces polish out through the center of a thick felt stopper which spreads it evenly over shoe surfaces. The container, which is assembled by the company, is disposable. Container parts molded by Fischer Plastics, Inc., Burbank, Calif., from Eastman's Tenite butyrate.



9



10



11



SELLING JOB is done by colorful labels that appeal to women, identify brand with advertising, explain uses, promote other products in line. Such labeling is needed in self-selection department like this one at Gimbel's, Pittsburgh.

More 'sell' for less money

Quantity buying in gang runs gives Rubbermaid four-color labels that pack a full sales story—at less than the cost of two-color



TWO MEN most responsible for Wooster Rubber's repackaging program: Guilford Johnson, advertising manager (left), with George Twickler, Rubbermaid's packaging engineer and technical service manager, demonstrating locking-end box flap.

The product that has no package other than a label has a real problem—particularly in these days of self-service and self-selection when the package is expected to do the whole job of attracting and selling. Nowhere is this problem more acute than in the line of housewares, for which super-

market outlets are becoming increasingly important and which no longer can expect clerk service even in conventional hardware- and department-store selling. Frequently the whole selling effort for a housewares item must be concentrated in about 20 sq. in. of stick-on label.

Significant, therefore, is the story of the Wooster Rubber Co., Wooster, Ohio, which has turned the labels for its line of Rubbermaid line of rubber household items into effective selling instruments and achieved four colors at less than the cost of its former drab two-color labels.

As a matter of fact, the newly improved labels have reduced packaging

costs right across the board for this manufacturer.

The Rubbermaid line—rubber mats, drainboard trays, dish drainers, dust pans and other allied accessories for dishwashing and household clean-up—last year rang up more than \$13 million in sales on housewares racks and counters across the country.

Many of the 60 items are sold unpackaged in open display, half of them classed as pure impulse items on the part of housewives. Proper labeling not only is the sole means of providing brand identification, but it must tie up with national advertising and provide necessary explanation and promotional data.

In the space of two decades, the Rubbermaid line has grown from a single item—a rubber dust pan which James R. Caldwell, founder and president, started making and peddling house-to-house during the depression of the '30s—to a line-up of products that now commands a "Rubbermaid department" in most of the large de-

partment stores, hardware outlets, etc.

The current Rubbermaid packages took the leading Gold Award in the Household and Housewares Division of the contest sponsored by *Variety Store Merchandiser*. Cited as the basis for the award was the transformation of "a former 'problem item' on variety store counters into a product which is easy to display, easy to handle, easy to buy and is easily adapted to all types of variety display and self-selection fixtures."

This growth, which has been heaviest in the seven years since rubber supplies became plentiful after World War II, pushed labeling and packaging into a dark corner until more urgent advertising, selling and manufacturing problems could be solved, according to Guilford Johnson, advertising manager.

The rise of the supermarket "general store" and the increasing trend to self selection in all types of outlets, however, indicated an urgent need for labels and packages that would

give greater selling help. Like the company's advertising, it was felt that the labels should have colorful illustrations of young housewives in action, that would quickly attract homemakers' attention and show the purpose of each item. The labels needed more emphasis on product name and the Rubbermaid trade name, plus illustrations to show additional uses and to promote related products.

The label-redesign project, undertaken by the advertising department, was begun with a compilation of the monthly usage of each label over a two-year period. It was soon discovered that up to that time Rubbermaid had been purchasing labels in "job lots"—one order at a time as needed by the production department.

With this compilation in hand, Mr. Johnson called in the company's purchasing department and one of its label suppliers. He sketched out the problem.

"Could we save enough money buy-

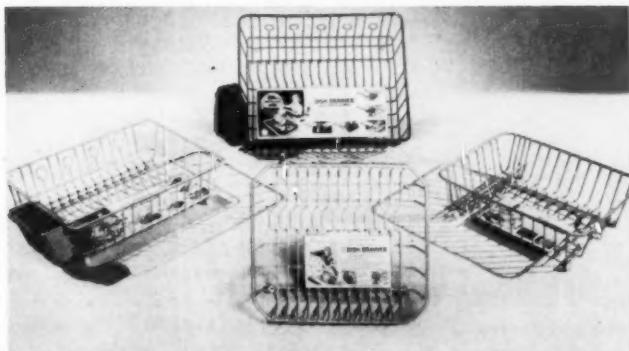
Four basic categories are key to Rubbermaid label economy



Group 1. Standard paper labels, four colors.



Group 2. Odd-sized paper labels, varied colors.



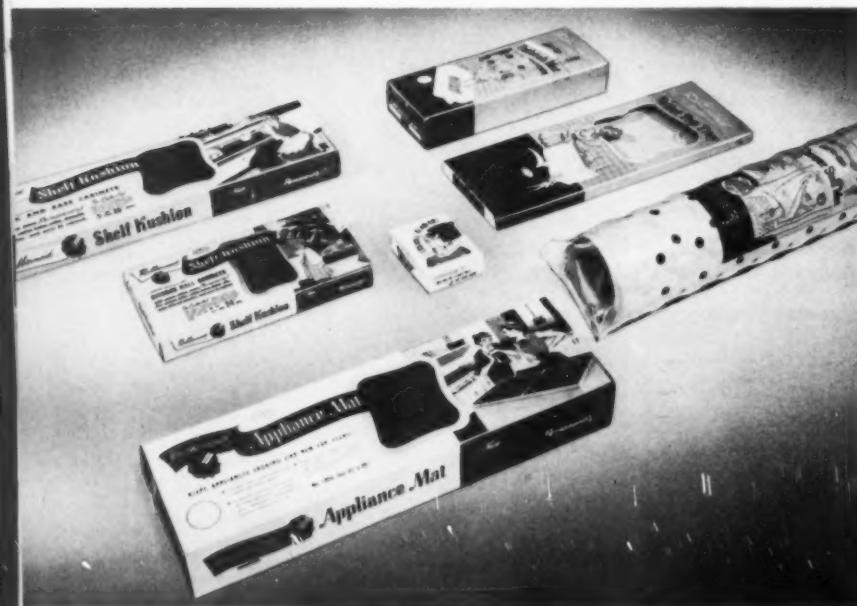
Group 3. Standard die-cut paperboard labels, four colors.



Group 4. Odd-sized die-cut paperboard labels, varied colors.



CROSS SELLING is essential to a company with as many items as Rubbermaid. Store checks show that shoppers who bought dish drainer with this label went back to buy items featured on reverse side of label.



WINDOW CARTONS, profusely illustrated to show usage and permit view of product, as well as cellophane wraps, have permitted simplified merchandising for items which would otherwise be unmanageable.

ing a year's supply of labels at one time to warrant a change from two colors to four-color printing?" he asked.

It was found that by taking steps to "gang" similar labels during a press run, by buying paper in larger quantities and by purchasing printing on a yearly basis instead of monthly or bi-monthly, costs could be reduced to a point where the increase in the effectiveness of the labels would probably offset any possible higher costs. What has actually happened in practice is that the company is now spending less money for its complete line of labels—including four-color—than prior to the change-over!

"To larger companies, such things as gang runs, paper buying in carload lots and forecasting label requirements a year ahead is probably old stuff," says Mr. Johnson. "To the youngish staff of Wooster Rubber Co., however, there had been no chance previously to establish such procedures. The line of products caught on so quickly and completely, there was time only to 'make it and ship it.'"

In working out the details for quantity buying, analysis showed that the labels could be classified into five basic categories for most economical handling:

1. Standard-sized paper labels, four colors.
2. Odd-sized paper labels, varied colors.
3. Standard, die-cut paperboard labels, four colors.
4. Odd-sized, die-cut paperboard labels with varied color requirements.

A fifth category, handled separately and not included in the over-all labeling program, included boxed items.

After the initial breakdown, priorities were set up for each category. Top priority was assigned to Group 1, the items leading the company's best-seller list, and following numerically with Groups 2, 3 and 4.

Careful notations were kept for each phase of layout, finished art, plate making and printing.

To take advantage of multiple runs, the advertising department requested printers to bid on complete label categories rather than individual labels. Estimated future usage of each label was included by the company in printer's-estimate information to aid suppliers in seeking still further means for cutting costs.

As far as possible, the treatment

of the labels has been related to the illustrative treatment, color and design of the company's advertisements so that the consumer when she sees the labels at the point of sale will immediately associate them with what she has seen in Rubbermaid advertising. Wash-color drawings are used rather than photographic illustrations to achieve greater simplicity and more emphasis on the product. The drawings, however, have been styled after the action-photograph technique so successful in home-making magazines and on the home-making pages of the daily newspapers—showing the smiling young housewife using Rubbermaid products.

Design patterns have been established for two basic appeals. Where the end purposes of the product need little explanatory copy or illustration, as in the case of a drainboard mat, one large, full-color illustration shows the product use. A smaller, secondary line drawing of a sink layout shows other major Rubbermaid sink accessories, such as a dish drainer, drainboard tray, sink liner mat, sink strainer, etc., suggesting other items the housewife may want.

Another technique has been adopted for products, such as the Rubbermaid sink liner mat, whose use may not be immediately obvious to all shoppers. The label illustrations for this product show the way the mat is used in the sink, with end flaps turned up against sink sides to offer additional protection for dishes. Supplementary illustrations in this case do not suggest other Rubbermaid products, but concentrate instead on the construction advantages of the Rubbermaid sink liner mat itself.

Label copy, like all copy for packaged Rubbermaid products, is phrased in the same style as used in the company's advertising. The brand name gets more prominent display than the name of the manufacturer and greatest emphasis is placed on product designation. Each label gives dimensions of the item and style number, a listing of its advantages, the *Good Housekeeping* seal, plus a good slogan or eye-catching phrase, such as "Saves 30 minutes a day," "Make a rubber cushioned dishpan of your sink" or "Added protection . . . added working space."

Wooster concedes that some of the labels have a crowded look, but knows they are doing a wonderful job because of this ability to stimulate

impulse sales by the cross-selling messages.

"With so many items in the present Rubbermaid line, a large percentage of the advertising had to do a round-up job in helping to sell a lot of products. This automatically throws a bigger load in the label," Mr. Johnson explains.

How the labels are helping to make sales is illustrated by experience with a new label card for the Rubbermaid dish-drainer line, which the company reports is one of the best display sales tools it has. The front of the 6-by-15-in. label, which clips to each dish drainer, sells the product. On the reverse side, 13 other Rubbermaid items for the kitchen are illustrated and indexed in what the ad manager calls "real work-horse art." The Rubbermaid plate rack, Shelf Kushion, drainboard tray, sink strainer, floor mat, etc., are pictured before the housewife when she removes the dish-drainer label in her home.

It's a complicated label, but apparently it works. Approximately 100 women sales representatives who sell Rubbermaid on housewares floors of leading department stores reported to Wooster that customers buy only one or two items on their first visit to the Rubbermaid department—but often come back for a half-dozen more.

Wooster has had to solve many troublesome problems in securing labels to the difficult rubber surfaces and odd shapes of its products. All adhesives must be water soluble so that the labels may be easily removed. Labels must not be secured so tightly that they will crack or tear if the rubber mat or drainboard is bent. After considerable research with all kinds of adhesive formulations the company has found that the most efficient for its purpose is a tapioca starch-base glue. On odd-shaped items, where there is no surface for adhesion, the company uses carefully engineered die-cut labels which fit securely to the items.

The same careful planning has gone into the designs for packaged Rubbermaid products, which include shelf coverings, appliance mats, bathtub mats, etc.

Shelf Kushions are a typical example of the company's packaging problems. The company believes these items are one of its greatest potentials and envisions many thousands of miles of shelves that can be covered with them. But both advertising and



MILES OF SHELVES can be covered with Shelf Kushions, but housewives must first be told on package how easy they are to fit and trim, and that there are even many uses for trimmed pieces. Ten illustrations are used on package to tell this story.



MACHINE LABELING is done on many flat items. Traveling vacuum-faced platen picks up label, passes over glue spreader, deposits and presses label into position on drainboard tray. An operator positions the tray.

packaging must sell housewives the idea of buying a permanent covering for cabinet shelving.

Therefore, on the Shelf Kushion carton, there are 10 full-color illustrations that tell the shopper that the product is easy to fit, easy to trim (This article continued on page 223)

ONE AT A TIME, swabs are dispensed from finger slot in revolving polyethylene rim of polystyrene container. Each swab is protected prior to use in individual compartment of polyethylene-film refill unit. Cotton pulls out from center hole.



COMPONENTS of the ingenious package, showing swabs in polyethylene strip, transparent molded polystyrene container and dust lid, revolving polyethylene dispenser top and center paperboard tube of cotton.

Double dispenser

A molded plastic container for swabs and cotton with an ingenious refill, it's the mother's friend

Ever watch a mother try to hold a squirming, freshly bathed baby on the bathinette with one hand while she fumbles with the other for a dab of cotton or a swab stick? The man who devised Glasco Products Co.'s new "Cotton Tails" dispenser package evidently had done so, for he created an ingenious new permanent container that dispenses either a swab or a puff of cotton at the touch of a hand. The package, designed to use refills of both items, certainly marks a new high in combining protection with convenience.

Now entering the volume production stage and sold nationally in drug stores, department stores and other types of retail outlets, the highly functional package has been enthusiastically welcomed by housewives, doctors, first-aid workers and others who use cotton in these two forms.

The permanent package consists of

a molded transparent container, so designed that individually sealed swabs may be withdrawn singly through a revolving finger slot in the top edge of the unit, while any desired amount of loose cotton may be plucked through the opening in the center. When the dispenser is not in use, it is covered by a clear plastic lid. Both the basic container and outer cover are polystyrene.

The convenient dispensing action of the combination package is made possible through the use of a flexible rim, molded of polyethylene material, which snaps in place over the edge of the container and may be easily rotated until the finger slot in the top lines up with one of the swab sticks. The outer skirt of this part is molded with four shallow lugs or undercuts which snap down over a projecting bead on the top of the container. Although they hold the rim

firmly in place, these undercuts permit the piece to swivel freely.

The assured one-at-a-time dispensing action of the new Cotton Tails package is in sharp contrast to the bags and boxes customarily used for this type of product, which frequently permit extra swabs to tumble out on the floor when the user attempts to withdraw one applicator.

The molded polyethylene snap-on rim of the dispenser is made with a flat bottom pierced by a center opening 1 1/4 in. in diameter, through which the loose cotton is withdrawn. The cotton feeds from a tubular paperboard sleeve in the bottom of the container. Polyethylene proved to be the ideal material for the functional top of the dispenser because it not only may be readily snapped on and off the transparent base, but also exerts a slight "dragging" action on the loose cotton when it is withdrawn.

From the protective and functional standpoints, the most ingenious feature of the Cotton Tails dispenser package is the method used to provide a sanitary individual enclosure for the 54 applicators and support them in vertical position for convenient dispensing. It is accomplished by sealing the swabs in tiny individual compartments formed by heat sealing two 2½-in.-wide webs of polyethylene film together, leaving only the top ½ in. of each stick exposed. Examination of the package shows that the two strips of film are of different gauges—one heavy, one light. The heavier strip serves as a semi-rigid backing against which pockets for the swabs are formed by a pleat-

display cartons containing 12 of the refills. The die-cut display riser of the counter package highlights an illustration of the Cotton Tails dispenser unit, along with identifying copy and the white-tailed bunny used as a trade character in all packaging and promotional material for this product. Illustrated suggested uses for the cotton swabs appear on the front panel.

Refills for the cotton used in the center of the dispenser are sold in the white tubular paper packages with blue friction-style paper base and cap, the latter carrying a pink-and-blue paper label identifying the product and instructing the user to remove the top and bottom when placing the refill in the plastic dis-

box and three of the units are combined in a corrugated shipping case.

Placement of refills in the plastic dispenser is easily accomplished by the consumer. First the rotating polyethylene cover is removed by pushing up on the outer edges, causing it to snap over the lip of the polystyrene base. Next the refill strip of swabs is placed around the outside edge of the container, with the smooth side outward and the pocketed compartments toward the inside, against the tube containing the pull-out cotton. A shallow internal groove in the bottom of the container, next to the side wall, helps to anchor the refill firmly in place at the bottom. Then the cover is snapped back



SHIPPING PACKAGE for 12 complete dispensers also make a counter display, with printed riser piece.



COUNTER CARTON for refill units of swabs suggests various uses and different means of handling swabs other than in the molded dispenser. Sealed plastic envelopes may be tacked on wall, kept in bathinette pocket or medicine chest.

ing of the lighter film during heat sealing. The length of this pocketed strip, approximately 11 in., matches the inner circumference of the plastic dispenser into which it fits, with the tube of cotton in the center holding the swab strip in position.

Although details of the method used in enclosing the swab sticks between the two layers of polyethylene film have not been disclosed by the Chicago company, it may be said that this package is literally "built around" the swabs on high-speed equipment specially designed for this purpose. The packaging operation is closely integrated with the manufacture of the swabs themselves. Refills of the 54-swab sealed polyethylene packs, encased in heat-sealed, printed, cellophane envelopes come in counter

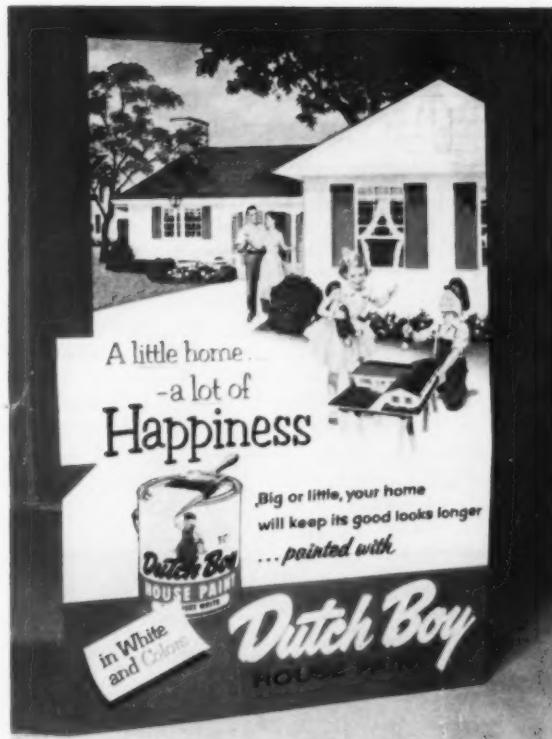
dispenser. It may be observed that the cotton itself is coiled within the tube, to promote easy, convenient feeding. The spiral-wound tubes, 3 in. in diameter and 2½ in. in length, hold approximately ½ oz. of cotton.

The Cotton Tails swabs and cotton dispenser, fully loaded and ready for use, is merchandised from an attractive double-duty corrugated shipping container which converts to a colorful counter display unit holding a dozen of the dispensers. Each box is imprinted with dealer instructions on how to set up the unit, which is labeled in pink and blue and includes a die-cut riser identifying the product and calling attention to its many uses in the household. For added protection in shipping, a sleeve is slipped around each counter display

in place and the dispenser is ready for another period of service.

From the merchandising standpoint, the Cotton Tails dispenser package is particularly interesting to retailers because it is not a one-time item, but a staple household necessity offering opportunities for repeat sales due to the refillable feature. The product is being solidly backed by ads in national magazines.

CREDITS: "Visqueen" polyethylene film, Visking Corp., 6733 W. 65 St., Chicago 38. Cellophane wrap for swab refills, Crystal Tube Corp., 6625 W. Diversey Ave., Chicago 35. Counter carton for dispenser units, Container Division, Owens-Illinois Glass Co., Toledo, Ohio. Counter carton for cotton-swab refills, Randolph Box & Label Co., 834 W. Van Buren, Chicago.



Brand clincher at point of sale

National Lead Co. is making the most of a current tie-in of its national magazine ads with point-of-purchase material as a means of reminding the shopper to buy the brand which has become familiar through these advertisements. Illustrated is a display card for National Lead Co.'s Dutch Boy House Paint which repeats one of its current magazine ads for the product. The display, which is lithographed in four colors, is in two planes and is set up by a single wing pop-out easel in back of the unit.

Dominating the display is an illustration that has popular appeal—a freshly painted home. Copy points out "A little home . . . a lot of Happiness." The Dutch Boy, trademark of the company's paint products, is a conspicuous part of the design. Two children are shown: a girl holding a Dutch Boy doll and a boy resembling the Dutch Boy shown painting a miniature of the home illustrated. A can of the paint is reproduced at the lower left side of the display alongside of the copy, "Big or little, your home will keep its good looks longer . . . painted with Dutch Boy House Paint."

CREDIT: *Display*, Forbes Lithograph Mfg. Co., Boston.

DISPLAY

A paraphrase for sauces that stops the shopper



Chef caps that top the bottles quickly attract shoppers' attention to this eye-compelling display for four cooking flavorings called "Butcher Shop Quartette" and marketed by Butcher Shop Quartette, Inc.

A full-color-printed paperboard poster is attached to a wooden base. Four circular openings in the base hold actual bottles of the four flavorings. Die-cut bottle labels illustrating humorous drawings of a chef are topped by the chef's cap, attached by shrink-type cellulose seals re-usable as covers for left-over foods stored in refrigerator jars. Primary bottle closures are metal screw caps. Full-color reproductions of the bottles appear on the display poster so that the unit never looks empty.

CREDITS: *Display*, Fine Creations, Inc., New York. Bottles and metal screw caps, Owens-Illinois Glass Co., Toledo. Paper labels, Ever Ready Label Co., New York. Refrigerator jar caps, Protex Products Co., New York. Cel-O-Seal shrink-type closures, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Bulletin board for supers

A display designed to appeal to supermarkets is this permanent price board and tear-sheet holder introduced by The Squirt Co., maker of Squirt bottled soft drink. Development of the display stemmed from a survey of supers conducted by Hugh McKellar, the company's promotion manager, who canvassed food stores, asking a single question: "What kind of a display do you want?" The invariable answer he received was, "something that facilitates chalking up our own store 'specials' and displaying tear sheets of our own newspaper ads." Lithographed in full color, this 16½-by-29½-in. display is mounted on composition board and paperboard for permanency. The face has an erasable finish. A carry-home carton of Squirt, together with the company's trade character pointing to the specials listed, appears at the top of the unit. Behind each hand is a hidden clip for fastening newspaper ads of any size up to a full page. Hand at the left is in fixed position, while the right hand is movable, sliding along a rod. The display is engineered at the back to permit its use at various heights in various store locations, including shelves, gondolas, etc.

CREDIT: *Display, Einson-Freeman Co., Long Island City, N. Y.*



GALLERY

Glenmore's '4 little words'

A free-form art design is combined with wrought iron to create this modern counter display for the Glenmore Distilleries Co.'s Glenmore Kentucky Straight Bourbon Whiskey. Held in a wrought-iron stand is a locked-in actual fifth bottle of Glenmore, backed by a paperboard copy panel that describes "4 little words with a great big meaning!" The four words, "Distilled and Bottled by," are the basis of a current newspaper and magazine advertising program by Glenmore Distilleries, which this display supplements, to promote its Glenmore brand. A triangular arrow reading, "Look at the Label!" points to the four words on the label of the bottle. A blown-up, full-color cut-out of the base of the bottle—also highlighting the four words—appears at the base of the copy panel. The display occupies a minimum of space on the counter and the bottle itself is pilferproof.

CREDIT: *Display, Associated Display Services, Chicago.*



Set-up box winners

This year's fourth annual Set-Up Paper Box Competition, sponsored by the National Paper Box Mfrs. Assn., was participated in by a third more of the association membership than in any former competition. This increased interest in set-up boxes was accompanied by a marked improvement in construction of the containers, as well as greater sales appeal of the package designs, according to the judges.

The winning boxes, exhibited at the 36th annual convention of the associa-

tion in Chicago, May 16-19, were selected by a judging panel of designers, users and makers of set-up boxes. Winning entries were selected for 22 specific end-use categories, based upon such qualities as protection of product, appropriateness of the package, display value, brand identification, convenience in packing and inspection by customer, and sales appeal. In addition to the General Superiority According to End Use classification, entries were also judged and awards presented in four other cate-

gories: Best Surface Design and Execution, Superiority of Construction, Best Display Box and Best Transparent Box. Two awards were presented for each winning entry—one to the box manufacturer and one to the customer. A change in rules for the 1954 competition eliminated the selection of a Grand Award winner as in previous competitions.

This year's competition judges included Robert S. Dunlap (retired), Dominion Paper Box Co.; Walter Hilliard (retired), Dennison Mfg. Co.;

First awards in 22



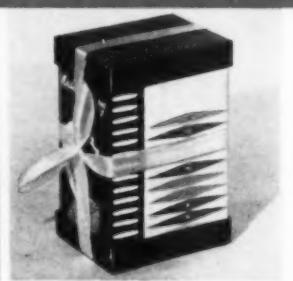
Drugs



Cosmetics



Food



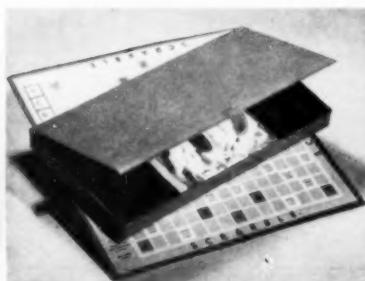
Confections



Hardware, automotive & household supplies



Photographic products & supplies



Toys & games



Hosiery & wearing apparel accessories



Beverages



Sporting goods



Textiles & wearing apparel



Jewelry & silverware

Entries in NPBMA's fourth annual competition show marked advancements in construction and design

A. P. Bondurant, Glenmore Distillers; Milton Fitch, Howard-Wesson Co.; Kenneth S. Omer, General Electric Co.; Raymond Loewy, Raymond Loewy Associates; Milton R. Schuette, The J. L. Hudson Co.; A. Craig Smith, Gillette Co.; Mrs. Virginia McCone, *Ladies Home Journal*; and E. H. Balkema, Colgate-Palmolive Co.

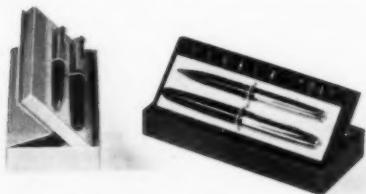
Award winners and honorable mentions in the various categories are as follows:

General Superiority According to End Use—Drugs: First award, Walter

P. Miller Co., for Ciba drug-samples box, manufactured for Ciba Pharmaceutical Products, Inc. Outer design of the box is plain and quietly conveys the impression of high quality; color scheme ties in with the drug line and inside lid pictures Ciba's main plant. Second award, Western Paper Box Co., for Barry Laboratories Skin Test box. Honorable mention, Walter P. Miller Co., Inc., for SKF drug-samples box for Smith, Kline & French Laboratories. **Cosmetics:** First award, George H. Snyder, Inc., for cosmetic gift box

manufactured for Helena Rubinstein, Inc. Unusual in construction, this exotically designed box has two pull drawers that slide into a deep shell covered in white paper printed with metallic inks in varied tones and pure colors that create an aesthetic reaction to the package and product. Second award, Newark Paper Box Co., for Barbara Gould's "Nocturne" cosmetics box. Two honorable mentions were selected in this category: F. N. Burt Co., Inc., for Spring Creation cosmetic box for Avon Products, Inc.; and Ni-

end-use categories



Personal accessories



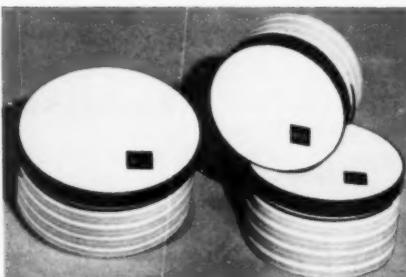
Soap



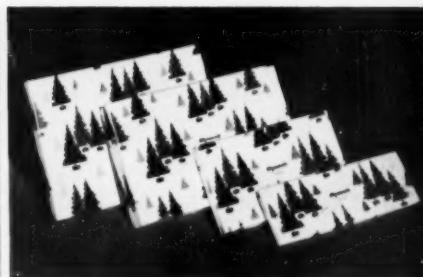
Tobacco & smokers' supplies



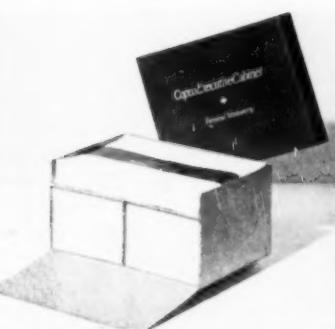
Footwear



Retail boxes



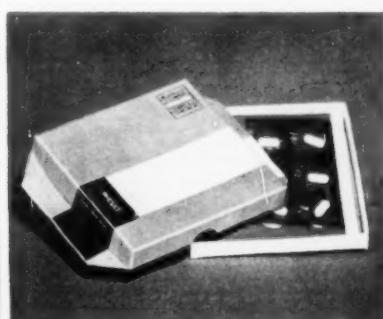
Holiday boxes



Stationery & other paper goods & products



Office equipment & supplies



Mailing boxes



Miscellaneous



Best surface design and execution



Best display box

agara Box Co., Inc., for Colgate-Palmolive Co.'s men's toiletry box. **Personal Accessories:** First award, Dennison Mfg. Co. for pen and pencil box manufactured for Parker Pen Co. A display and gift package, this ingeniously constructed box makes proper display almost automatic. Contents are held in the cloth-covered center of a slotted insert, glued directly to the front half of a flat scored hinged lid which accordions back when opened for display. Second award, Dennison Mfg. Co., for Esterbrook Pen Co.'s pen and pencil box. **Soap:** First award, Newark Paper Box Co., for Jasmin soap gift box manufactured for Colgate-Palmolive Co. This distinctive package combining transparent and paper set-up boxes also won an honorable

mention in the *Best Transparent Box* category. The transparent box slides into a gold-colored foil-wrapped tray to provide a rich setting for three cakes of quality soap. A dignified white outer box with gold embossed lettering creates a gift appearance and at the same time protects the display package and contents. Honorable mention, The Central Carton Co., for the Hewitt T.V. soap box for The Hewitt Soap Co., Inc. **Food:** First award, Congress Paper Box Co. for Reese seafood box manufactured for Swiss American Food Co. Box lid for this collection of seafood delicacies is sea-green paper with a modern design of fish, nets and bubbles printed in tones of lavender seen in luminescent sea life. Box base is wrapped in deep purple and lined with deep water-green foil. Rustic brown fishnet covering completes the marine atmosphere. Second award, Congress Paper Box Co., for Swiss American Food Co.'s Cocktail Delight tray box. Honorable mention, Acme Paper Box Co., for Spice Islands Co.'s Spice Chest box. **Confections:** First award, The Congress Paper Box Co., Inc., for Marshall Field's candy box manufactured for Marshall Field Co. This box also took second award for *Best Surface Design and Execution*. This gift unit for a 1-lb. variety of high-quality candy has three small extension-edge boxes and a lined board sleeve for spacing, which are bundled together; wrapped trays are slipped over each end of the box group, which is finally tied in white satin ribbon. Each box and each part of the bundle complement one another in geometric line and color tones. Second award, Boxcraft Paper Box Co., for Douglas Shaw's candy step box. Two honorable mentions were selected: I. A. Deline Paper Boxes, Inc., for Mary Vess Candies' "For Men Only" candy box; and Boxcraft Paper Box Co., for candy book box for Hooper's Chocolates, Inc. **Tobacco and Smokers' Supplies:** First award, The Bradley & Gilbert Co., Inc., for tobacco-blending kit manufactured for Tobacco Blending Corp. An economical, compact, angular display package with tobacco-brown lid has a box insert that is scored only and automatically held in position by the weight of the 12 component tobacco-blending materials. Good display for impulse sales and a sturdy box for home use and storage. Second award, Thoma Paper Box Co., Inc., for McDonald Products Co.'s

Smoking Companion box. This entry also took second award in the *Best Transparent Box* category. **Hardware Appliances, Automotive and Household Supplies:** First award, The Bradley & Gilbert Co., Inc., for Mercury seat-covers box manufactured for Ford Motor Co.'s Lincoln-Mercury Div. This reinforced box, wrapped in solid green and yellow papers, has a base consisting of two boxes, one within the other. The inner box acts as a ledge for the flat lid which, when raised, slips into a narrow space between the two component base boxes. A high-visibility display placard is mounted on the inside surface of the lid. The box is designed to be kept open at the sales counter. Second award, The Bradley & Gilbert Co., Inc., for Ford Motor Co.'s Ford seat-covers box. Honorable mention, Spitzer Paper Box Co., for Hostess glasses box for Libbey Glass Div., Owens Illinois Glass Co. **Photographic Products and Supplies:** First award, Consolidated Paper Box Co., for camera box manufactured for Polaroid Corp. Inside of box lid is built up with layers of die-cut corrugated and black-lined paperboard which hold the camera lens in position during shipment. Base is a double unit of neck and shoulders combined to allow exact positioning of contents and to give the essential feature of box durability. Tray padded in red velvet adds a luxury touch. Second award, Paper Package Co., for lens box for Argus Cameras, Inc. Honorable mention, Newark Paper Box Co., for Image Orthicon tube box for Radio Corp. of America, R.C.A. Victor Div. **Textiles and Wearing Apparel:** First award, Old Dominion Box Co., Inc., for Martex towel box manufactured for Fairfax Mills. A hinged-lid box in white moire complements an elaborate towel set. Restrained handling of the Martex name on the gold-colored foil-lined lid and an enclosure card with envelope make the package a year-round gift item. Towels are protected by a heavy-gauge acetate cover. Second award, Van Ness Bros., Inc., for The Manhattan Shirt Co.'s Currier & Ives pajama box. Two honorable mentions were presented in this classification: Thomas Paper Box Co., Inc., for M. Wile Co.'s Tattersall vest box; and Old Dominion Box Co., Inc., for Cannon Mills' Cannon pillowcases box. **Hosiery and Wearing Apparel Accessories:** First award, Friend Box Co., for Mitten's Sea Chest manufactured for Cape Ann Mfg. Co. A dis-

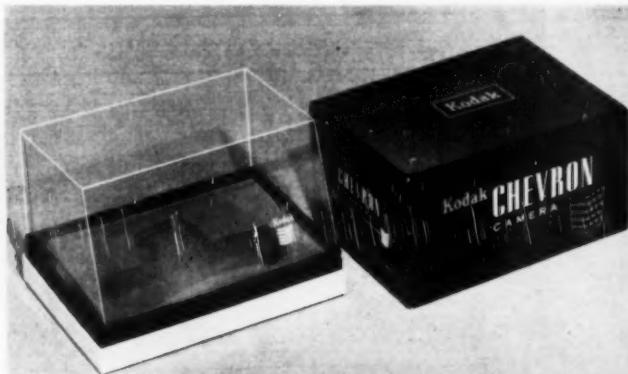
play sea chest features the Gloucester fisherman's theme to tie mittens in with a line of boys' nautical jackets. Chest is wrapped in wood-grain paper and fitted with heavy rope handles. Inside of the raised lid and back of the box are billboards for sales message. Front of the sturdily constructed box hinges down to reveal price label. Second award, Van Ness Bros., Inc., for The Manhattan Shirt Co.'s men's handkerchief box. Honorable mention, Niagara Box Factory, Inc., for La Fleur's Swiss handkerchiefs box. **Footwear:** First award, Frank C. Meyer Co., Inc., for Lord & Taylor box, manufactured for Lord & Taylor. This box, which also took an honorable-mention award for *Best Surface Design and Execution*, incorporates smart fashion, feminine appeal and a practical merchandising feature with standard shoebox construction. Rich dark-green wrap for the background of a single long-stem red rose radiates quality. Base wrap is printed with a shipping label for mailing to out-of-town customers. Second award, W. H. Albrecht Co., for Newton Elkin Shoe Co.'s bridal shoe box. Honorable mention, Manufacturers Box Co., Inc., for United States Rubber Co.'s Gaylites boots box. **Retail Boxes:** First award, Paragon Box Co., for Rich's hat boxes, manufactured for Rich's, Inc. Gray-striped base and shining white tops are forcefully contrasted by adroit use of jet-black paper and nylon cord for these three sizes of hat boxes. Store name appears in reverse on the lid. For carrying, the cord is tied between opposite sides of the box and slips over the lid to lock box closed. Second award, Pacific Paper Box Co., for Tom Preissman's retail box. Honorable mention, Western Paper Box Co., for Hutchings-Marmaduke's department-

store boxes. **Holiday Boxes:** First award, Wayne Paper Box & Printing Corp., for holiday gift boxes manufactured for Wyman's. A family of gay Christmas gift boxes features the department-store name on the lid, framed by a forest of red and green fir trees. Suave art design makes further gift overwrapping unnecessary. Second award, Wayne Paper Box & Printing Corp., for E. C. Minas Co.'s holiday gift boxes. **Beverages:** First award, The Bradley & Gilbert Co., Inc., for Kentucky Tavern box manufactured for Glenmore Distilleries Co. Appealing counter display boosts purchasing in multiple units. Hinged lid is green velour with gold trim; when raised, it reveals sales message on inside lid. Inner construction protects product and shallow base permits good visibility of contents. **Sporting Goods:** First award, W. C. Ritchie & Co., for pistol boxes manufactured for Browning Arms Co. This family of three boxes has glued-in, die-cut trays, inverted and molded with red velveteen. A hinged shoulder-type box, the lid, base and neck are tight wrapped in jet-black embossed alligator paper. Base and lid are hinged inside and out with black cambric and ribbons support the lid when open. Second award, I. A. Deline Paper Boxes, Inc., for Wright & McGill Co.'s spinning-line box. Two honorable mentions were awarded in this classification, both going to I. A. Deline Paper Boxes, Inc., one for Hank Roberts, Inc., fisherman's gift box and the other for Spinn-X Sales Corp.'s family of fishing reels and handles boxes. **Toys and Games:** First award, The Box Shop, Inc., for Scrabble game, manufactured for Production & Marketing Co. Wrapped in a fire-engine red leather-grain pyroxylin-coated ma-

terial, this box can be washed, will not discolor and will wear long in the purchaser's home. The padded, hinged cover has a luxury feel. A plastic-coated snap fastener is used. Second award, Heminway Corp., for The U. S. Time Corp.'s "Hopalong" wrist watch box. This box also took second award in the *Best Display Box* category. Honorable mention: L. Gordon & Son, Inc., for General Glaze Corp.'s Jr. Nite Lite box. **Stationery and Other Paper Products:** First award, Columbus Paper Box Co., Inc., for Copco stationery box manufactured for The Central Ohio Paper Co. With lid removed, hinged side of this box drops to make envelopes and paper easily accessible. Rigid shelf holds paper and pigeon holes keep envelopes in place. Lid is chocolate colored; base paper is coffee colored and designed in a rich gold basket weave. Second award, I. A. Deline Paper Boxes, Inc., for Sportsman writing-paper box for Hobby Stationers, Inc. **Jewelry and Silverware:** First award, Niagara Box Factory, Inc., for steak-knife book box manufactured for Imperial Knife Co. The green leather-grain paper and gold-stamped book title imply quality and arouse curiosity. Product is held in a gold-wrapped tray. Easily opened for inspection, box makes a distinctive gift package. Second award, Dennison Mfg. Co., for Joseph H. Meyer Bros.' pearl ensemble jewel case. **Office Equipment and Supplies:** First award, Van Ness Bros., Inc., for pencil carbon-paper box, manufactured for Burroughs Adding Machine Co. Lucid cover design in warm colors and smart construction indicate that the contents of this box are made with care. Golden-tan wrapper is printed in chocolate (This article continued on page 206)



Superiority of construction



Best transparent box

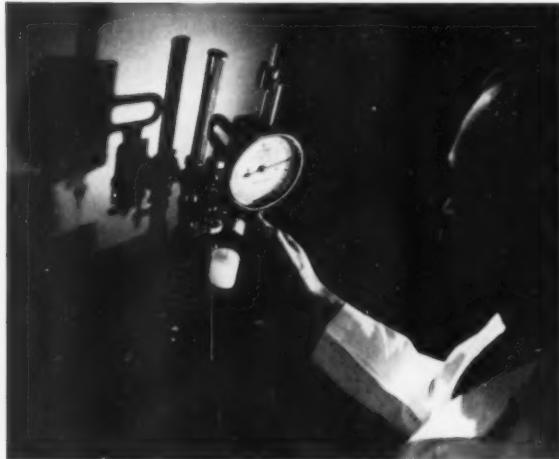
Don't buy closures by guesswork—

when it's so easy to have our technicians help you
select one that's exactly right for your product

CLOSURES play an important role in the sale and resale of your product. They must be efficient . . . they must be convenient to use . . . they must be economical. So you must select yours with care.



Finding new and better lining materials for your product calls for evaluation under rigidly controlled storage conditions such as are provided by this humidity control cabinet.



Another control test with the precision penetrometer measures the hardness of waxes and other liner materials for closures.



Packaging as a sales tool is more important than ever before. Cap designs can actually help a product's sales. Here, careful matching of inks assures you bright, colorful closure designs.



Careful and rigid inspection of liner and cap is one of the many steps Owens-Illinois takes to produce better, fully controlled quality.



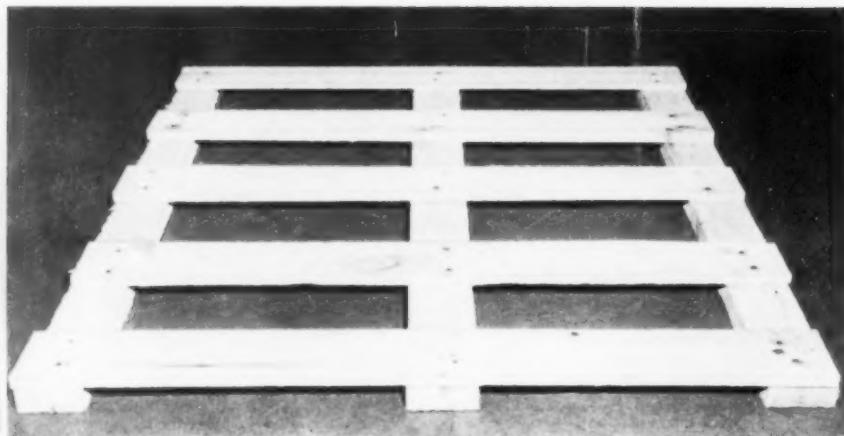
BEFORE: Something's needed to give this package the extra sell that makes the difference between many a "pick-up" and a "pass-by" in today's self-service selling.



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METAL AND PLASTIC CLOSURES
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SIMPLE NEW STYLE is made of eight 1-in. timbers, which eliminate the usual nine blocks on the bottom. The blockless pallet measures 41 by 35 in. Trucks with chisel or sabre-pointed forks can handle it.

No-block pallets

Ternstedt introduces a new type of unit-load platform, simplifying shipping procedures and cutting costs

A large manufacturing operation like that of the Ternstedt Div. of the General Motors Corp., at Trenton, N.J., has taken many a big stride in the direction of cost-cutting efficiency with modern methods and procedures, multiple-purpose dies, trained foremen and other exacting supervision. But, as all production engineers know, a point is reached at which the opportunities for economies in production methods begin to dwindle.

At this point many companies, including Ternstedt, have shifted their cost-saving scrutiny from production to packaging materials handling. The company's concept of efficient materials handling begins with the manner in which raw materials are brought into plants¹ and ends only after finished products are on their way to assembly-plant customers. Maintaining a round-the-clock program to improve its handling methods, Ternstedt has recently recorded some of its largest savings through unit-load packaging and pallet simplification.

As a manufacturer of hardware accessories for General Motors cars,² Ternstedt ships parts to assembly plants throughout the world in various types of corrugated and wood containers. With a tremendous volume of materials flowing in and out of the plant, great pains have naturally been taken to reduce handling to a minimum.

Ternstedt's most rewarding innovation (which incidentally took Second Prize in Group 7, Materials Handling, in the 1953 National Protective Packaging and Materials Handling Competition at Boston[†]) is the no-block pallet. Of simple lattice-work construction, it is minus the nine 3-by-4-in. blocks found on the conventional pallet and has instead eight 1-in. full number strips extending 35 by 41 in. to the full length and width of the pallet. Trucks with chisel or sabre-pointed forks can pick them up easily.

In less than a year's operation, the

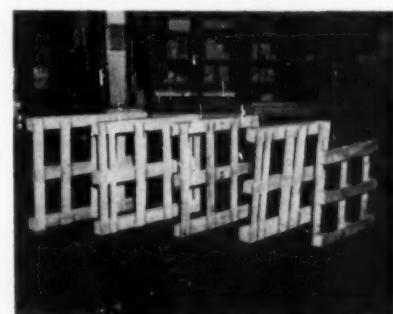
pallets have proved themselves cost savers on several counts. Savings are derived from a reduction realized in the cost of each pallet, this being made possible mostly by the elimination of the individual blocks. Shipping costs have also been reduced because the no-block pallets weigh somewhat less than others and take up less cubic area of space. There has also been a large reduction in warehouse stacking space for unloaded pallets and impressive savings in tiering pallet load upon pallet load. Over-all savings from this innovation by General Motors' Ternstedt Div. is convincing evidence of what a company can accomplish in the field of packaging and shipping.

Indirect benefits are also being obtained. Because of the pallet's full-beam construction, weight of the load is more evenly distributed, with the result that as much as 2,500 lbs. can be safely supported. Elimination of the nine blocks in the old-style pallets has resulted in less damage to merchandise in shipment and storage. While the block-style pallets were being squeezed into freight cars, a fork truck might push one of the blocks out of position, weakening the entire structure. Blocks might also be loosened in unloading the pallet at the receiving end.

Over 30,000 of these new pallets have been loaded and shipped by Ternstedt to General Motors' assembly plants. Due to the fact that they are low cost, the pallets are expendable—although pallets shipped to plants at nearby points are returned if shipping costs are less than the value of the pallet.

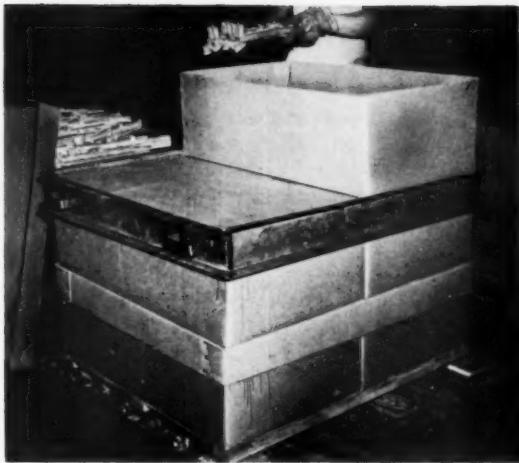
Recognition of pallets as an efficient tool for handling packaged

FORMERLY, these five sizes of old-style pallets were required to move Ternstedt products. Now everything goes, in glued unit loads, on new blockless pallet.



² See "Unit Packaged for the Assembly Line," MODERN PACKAGING, June, 1953, p. 126.

[†] See "Industrial Packaging Highlights," MODERN PACKAGING, Dec., 1953, p. 126.



BUILDING UP glued unit load. Each layer of open trays is covered by a common telescoping glued lid; temporary metal "collar" facilitates lid bond; lid tops are glued and another layer started.



SPACE IS SAVED and the possibility of damage to merchandise is minimized by elimination of the need for blocks under the pallets. These benefits accrue in stacking both for shipment and warehousing. Other indirect benefits are also being obtained.

goods has been long since established, but standardization, though recognized as a need, has been generally slow. The difficulties can be seen when an organization like Ternstedt is confronted with 16 different corrugated assemblies used on pallets of five different sizes. A revised system now requires cartons of only five different sizes, which can be used on only one pallet, the standard 41-by-35-in. size. The multi-purpose pallet is sufficiently versatile for shipping 125 part numbers, totaling 10,000 unit loads each month.

In condensing the 16 assemblies into five, it was necessary, in some instances, to re-arrange the interior packaging methods. Engineers, whose first objective was to reduce costs, endeavored to keep interior packaging to a minimum. Their tests showed that pallet packs performed best when parts could be arranged in the carton so that they were self-supporting, adding strength to the pallet load. A seat adjuster, for example, instead of being placed flat in the shipping carton, increasing the burden of the load, is stood upright, thereby increasing the strength of the unit. Stress and strain are given more careful consideration now because of higher tiering—often six high.

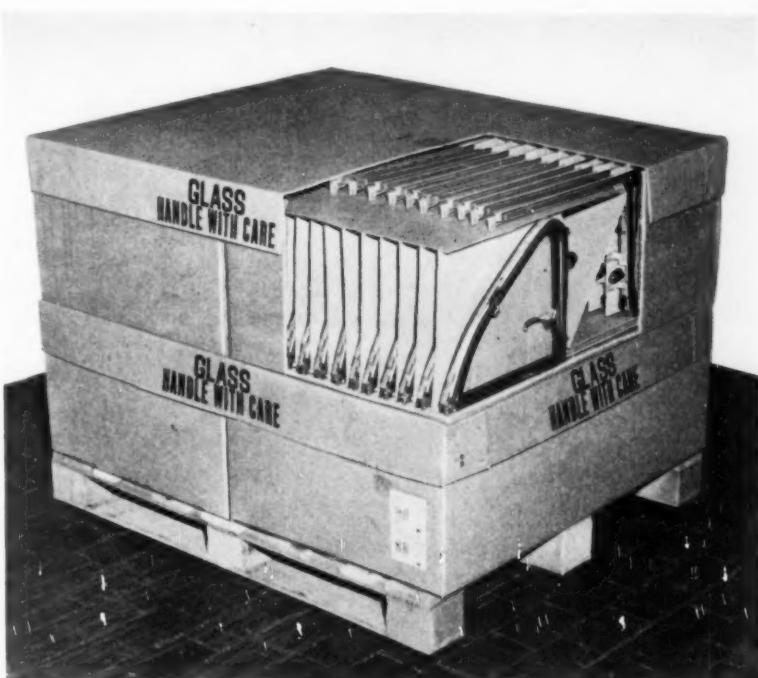
The unit system

The company's change-over from the individual bundle or carton to the unit pallet load is an interesting demonstration of cost saving in itself.

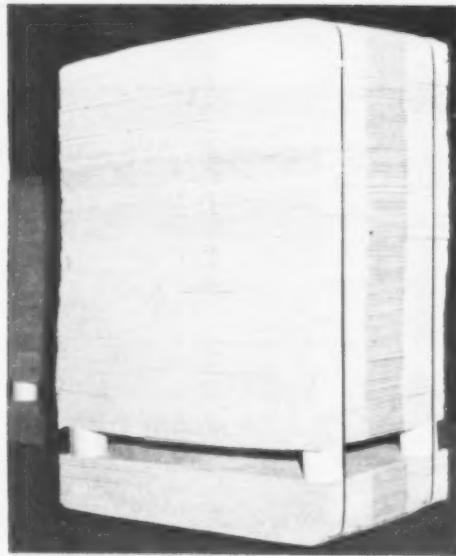
After enlisting the cooperation of vendors, the system was put into effect for incoming as well as outgoing finished products, so that today 85% of all incoming packaging materials are received in unit loads. In further proof of the method's practicality, the division figures it this way: Sixteen

unit loads of incoming packaging materials such as knocked-down cartons are the equivalent of 800 bundles. Although it formerly took 12 manhours to unload the bundles, the equivalent 16 units are unloaded in $\frac{1}{4}$ hr. by one man using a fork truck.

For outgoing finished parts, unit



PRIZE-WINNING PACK at Boston Industrial Packaging Show was this typical unit load for view-control ventilators, cut away to show interior packing. Some of the ventilators are still shipped on block pallets because not all of the receiving plants as yet have thin-fork trucks.



INCOMING MATERIALS at Ternstedt also use unit-load principle. These knocked-down shipping containers are simply banded together, with four cores, cut by vendor from paper roll, to provide space for truck forks.

load handling has become standard procedure at this General Motors division. Included are several refinements, added since the system was first introduced, which should be of interest to other packagers.

As the system is now constituted, pallets are placed on roller conveyor belts for loading with one-half regular slotted double-wall corrugated cartons, customarily six to the pallet. Not only must the cartons be loaded in a way to save handling and costs, but also securely so that the finished products will arrive at their destination in undamaged condition. To do this, Ternstedt spot glues the bottoms of the first two cartons to the pallet and then adds a common telescoping cover—a scored and slotted corrugated lid. The cover is glued into place and a metal ring is brought into position around both cartons so that compression will provide a strong bond between the walls of the carton

and the cover. Glued in this way, the cover acts as a re-enforcing shoulder to the carton. The tops of these two cartons are spotted with glue and the next two cartons set in place and so on until the load is completed. A fork truck picks up the completed load and deposits it in the warehouse or directly in a freight car, depending upon the delivery schedule.

Among the advantages tallied by Ternstedt in favor of unit pallet loads are: less product damage because of less handling; less warehouse accident because of less traffic; better employee morale through the elimination of heavy manual effort; less inventory-taking time due to uniform loads; greater capacity of storage area because of higher tiering; quick and easy transfer of palletized material from the packaging area to the warehouse or freight-car siding, and more efficient use of shipping and receiving docks due to decreased time for loading and unloading.

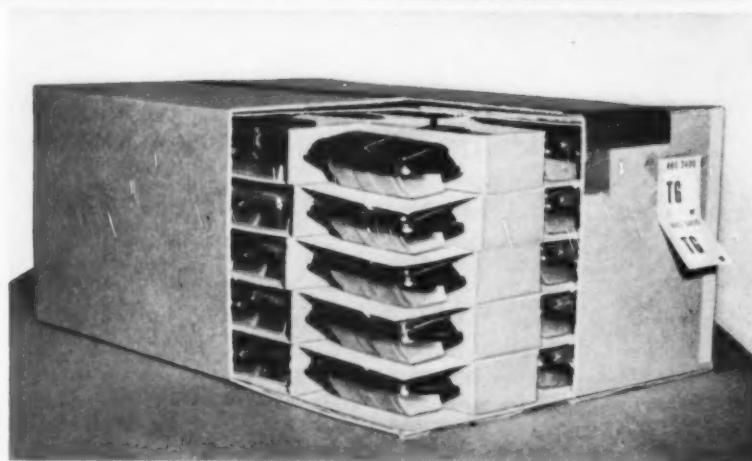
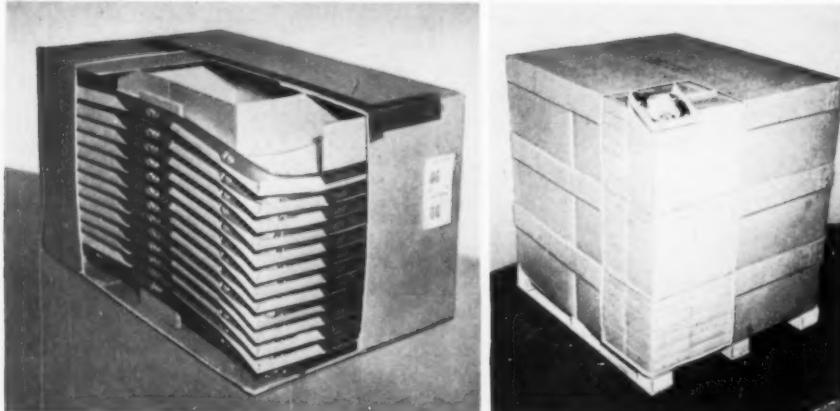
From the production floor, the rigid unitized load is easily transferred to the warehouse area where it is tiered and stored on steel racks where size limitations allow.

The experience has been that racks relieve the weight from the loads themselves during storage, providing still another measure of product protection. Then, too, there are the advantages of saving warehouse space, simplifying inventory control, proper stock rotation and better housekeeping, safety and material flow.

At Ternstedt, as with other manufacturers, the simple maxim is accepted that the best-designed package is futile if it is not correctly placed and braced within the freight car. The so-called "equipped" car, now used exclusively by Ternstedt, appears to them to be the solution.

CREDITS: No-block pallets, Mt. Airy Lumber Co., R. D., No. 1, New Providence, Pa.; Otto Fichte & Son, P. O. Box #4 Hollis 23, N. Y.; Stokes Equipment Co., N. E. corner School Lane & Wayne Ave., Philadelphia, Pa.; Corrugated cartons, Schifenhauers Bros., 2013 McCarter Hwy., Newark, N. J.; Standard Corrugated Case Corp., 686 Grand Ave., Ridgefield, N. J.; Allcraft Container Corp., 405 Kingsland Ave., Harrison, N. J.; David Weber Co., 3500 Richmond St., Philadelphia, Pa. Tape machines, Nashua Package Sealing Co., Inc., Nashua, N. H. Gummed paper tape, Gilman Paper Co., 630 Fifth Ave., New York; St. Regis Paper Co., 230 Park Ave., New York; Stocker Mfg. Co., Netcong, N. J.

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Plastic films at low temperatures

New data on toughness and gas-transfer characteristics of films, including Mylar. By A. J. FREEMAN, L. W. SHERIDAN and M. M. RENFREW*

Early in General Mills' development of giant plastics balloons for probing the stratosphere, polyethylene film was selected as the most promising of the candidate barrier materials. The critical requirements placed on these polyethylene films in service at high altitudes made it necessary to develop methods of differentiating among polyethylenes to select only the types with the optimum properties in extruded form for the highly specialized application at hand.

Polyethylenes in general have been recognized as having excellent low-temperature toughness and low moisture absorption. These properties, and the relative ease of extrusion into thin films, have made polyethylene one of the most promising of packaging materials. Currently, the use of this film in packaging is mushrooming and it is predicted that polyethylene may become the first billion-pound-a-year plastic.

The properties which recommend polyethylene for packaging also make it attractive for balloon fabrication. Balloons are, after all, only huge packages which must hold as much as three million cubic feet of gas. Specifications on film for balloon service tend to be more stringent than are the specifications for film in normal packaging applications, but these requirements differ only in degree.

* The authors are associated with the Research Laboratories of General Mills, Inc., at Minneapolis, Minn. Under the title "Toughness and Gas Transfer Characteristics of Plastic Films at Low Temperatures," this is Paper No. 167, Journal Series, Research Laboratories, General Mills.

Two of the most important properties for a satisfactory balloon film are toughness and low gas permeability or porosity over a wide range of temperatures. These two properties also are of interest to the packaging engineer concerned with low-temperature packaging.

Toughness at low temperatures

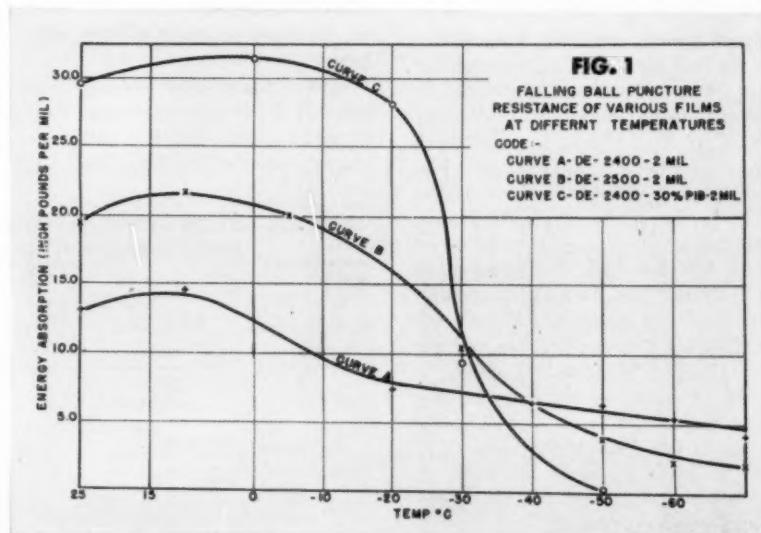
The term toughness when applied to plastic film at low temperatures may be thought to consist of two independent properties: (1) brittleness and (2) resistance to tearing or puncture. Tensile strength at low temperatures is not of great importance in most cases since almost invariably the

tensile strength increases as the temperature is lowered. Hence, if the tensile strength is adequate at room temperature, it will be more than adequate at low temperatures. We are more concerned here with resistance to tearing and with shock brittleness of plastic films.

A method suitable for determining the cold-brittleness temperature of thin plastic films has been described by Renfrew and Freeman (1).¹

This method has been used extensively in the evaluation of the cold-brittleness temperatures of balloon films. It is the method used to obtain

¹ Numbers in parentheses identify References appended.



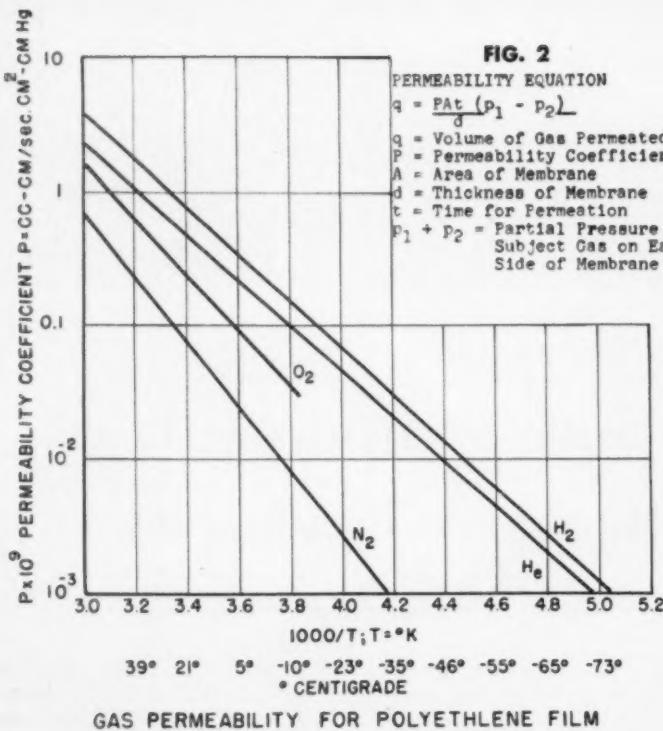


FIG. 2
PERMEABILITY EQUATION

$q = \frac{PAT}{d} (P_1 - P_2)$
 q = Volume of Gas Permeated
 P = Permeability Coefficient
 A = Area of Membrane
 d = Thickness of Membrane
 t = Time for Permeation
 $P_1 + P_2$ = Partial Pressure of Subject Gas on Each Side of Membrane

the cold-brittleness results presented in this paper.

The standard methods of measuring tear strength, such as the Elmerndorf and the Graves tests, are not in most cases suitable for polyethylene. Anomalous results are almost invariably obtained with either method because of polyethylene's tendency to stretch and elongate so easily. An instrument which was found to give more meaningful results was a drop-ball puncture tester.

In this test a steel ball is dropped from a fixed height and allowed to pierce the test specimen. The velocity of the ball after breaking through the test piece is measured by the use of two photo-electric cells and a Berkley Time Interval Meter. The difference in velocity between a free-falling ball and the ball which has punctured the film may be used to calculate the energy absorbed by the film when punctured by the ball. The change in velocity can also be used as an indication of film strength, although the relationship between velocity and energy absorbed is not strictly linear.

The very rapid rate of stressing produced by the dropping ball as opposed to the slow rate of stressing in conventional tear-strength tests is probably the reason for the more meaningful results. The punctured

films are not greatly deformed outside of the actual area of impact. This type of rapid stressing is often encountered during actual balloon flying.

Toughness measurements

(A) *Polyethylene films.* Our work on toughness at low temperatures was concerned primarily with polyethylene films. Polyethylene is especially well suited for balloon fabrication, since it can be extruded readily into wide films as thin as 0.001 in. It remains relatively tough and flexible down to temperatures of minus 60 deg. C. or lower.

It was found that the melt-index value of the polyethylene resin had a marked effect on the brittleness characteristics of the film. Films with

TABLE II—LOW-TEMPERATURE TOUGHNESS OF POLYETHYLENE-POLYISOBUTYLENE BLENDS

% polyiso- butylene	° C. cold- brittleness temperature	Falling-ball puncture resist- ance at -20° C. in. lbs./mil
0	-71	19
3	-63	21
15	-57	26
30	-46	29
50	-40	23

the lowest melt index, in general, had the lowest cold-brittleness temperature and the best tear and puncture resistance, although some exceptions were found.

Table I illustrates how the brittleness temperature and puncture resistance vary with the melt index. This value depends upon the viscosity of the molten polymer and is believed to be a measure of the molecular weight of the polymer. The higher the melt-index value, the lower the molecular weight. The table shows that high molecular weight favors both the cold-brittleness properties and puncture strength of the films. The deviation from perfect correlation indicates that other factors in addition to molecular weight influence the low-temperature toughness (2). Orientation seems an important factor in puncture strength, but it does not appear to influence the measured cold-brittleness temperature to any marked degree.

(B) *Polyethylene - polyisobutylene blends.* Blends of polyethylene and polyisobutylene were investigated as possible candidates for balloon films. These blends proved to be unsuitable because small quantities of polyisobutylene in polyethylene raised the cold-brittleness temperature of the blend markedly. Also the puncture resistance dropped off rapidly in the very low temperature range.

These blends, however, may be of

TABLE I—COMPARATIVE LOW-TEMPERATURE TOUGHNESS OF FILMS FROM DIFFERENT GRADES OF POLYETHYLENE

Manufacturer's grade	Melt-index value	Film thickness (in.)	Cold-brittleness temperature (° C.)	Puncture resistance (in. lbs./mil) at -20° C.
A	0.41	0.002	-72	16
B	0.83	0.0015	-70	17
C	0.98	0.001	-66	11
	1.37	0.001	-67	10
D	2.17	0.0015	-60	9
	2.21	0.0015	-52	10
E	2.93	0.0015	-62	10

considerable interest in the packaging field, since they seem to have quite good toughness characteristics in the moderately low temperature regions. The low-temperature toughness properties of these blends are shown in Table II. At minus 20 deg. C., a blend containing 30% polyisobutylene had a puncture resistance of 29 in. lbs./mil in comparison with 19 for the uncompounded polyethylene. The cold-brittleness temperature was raised from minus 71 deg. C. to minus 57 deg. C. A brittleness temperature of minus 57 deg. C. is probably acceptable for almost all packaging applications.

Fig. 1 compares graphically the puncture resistance at different temperatures of a straight polyethylene film and a polyethylene-polyisobutylene film. As shown, the blend is stronger at the higher temperature, but the puncture resistance starts to drop off rapidly at minus 20 deg. C. and the film has no strength whatsoever at minus 50 deg. C. The polyethylene film has better puncture resistance than the blend below minus 30 deg. C., although it is still quite poor in the low-temperature regions. No polyethylene films have been found which have a puncture resistance at minus 50 deg. C. that is at all comparable with the puncture resistance at room temperature.

Tensile strengths, however, do not change in this fashion. The tensile values usually increase with decreasing temperature. The tensile strength of a polyethylene film at minus 30 deg. C. may be almost double what it is at room temperature.

(C) *Other plastic films.* Other types of plastic films reportedly good at low temperatures were investigated. These films and some of their low-temperature properties are reported in Table III.

The plasticized polychlorotrifluoroethylene (Kel-F or Trithene), poly-

TABLE IV—LOW-TEMPERATURE TOUGHNESS OF VARIOUS PLASTIC LAMINATES

Material	Measure film thickness (in.)	Cold-brittleness temperature (° C.)	Puncture resistance (in. lbs./mil at -60° C.)
Polyethylene	0.0015	-70	5.2
0.002 polyethylene/0.001 Mylar	0.003	below -75	25
0.0005 Mylar/0.0005 Mylar	0.001	below -75	43
0.0005 Mylar/0.00045 al. foil	0.0015	below -68	50
0.001 polyethylene/0.00035 al. foil/0.001 polyethylene	0.0035	below -70	5.3
0.001 polyethylene/0.001 cellophane	0.002	-50	15.2

tetrafluoroethylene (Teflon) and polyethylene terephthalate (Mylar)² all appear to have good low-temperature toughness. Of course, other factors must be considered also in films for balloon and packaging applications. For example, Teflon cannot be heat sealed and Mylar is heat sealed only with difficulty. However, in certain properties these films are markedly superior to polyethylene and they find application where these special properties (e.g., high softening temperature) can be put to good use.

(D) *Special laminates.* Laminated plastic films have been considered as a method of combining the optimum properties of several plastics into one film. A number of such laminates have been obtained and evaluated.

The low-temperature-toughness characteristics of several of these plastic laminates compared to straight polyethylenes are presented in Table IV.

As the data in this table indicate, most laminates, and especially those made with Mylar film, have superior toughness at low temperatures to straight polyethylene film.

It should be pointed out, however, that while such laminates should be of great interest in low-temperature packaging application, they are quite expensive and, also, some of these

² Mylar is a condensation product of ethylene glycol and terephthalic acid, and is chemically distinct from polyethylene.

laminates have a tendency to delaminate.

(E) *Irradiated polyethylene.* One of the newest and most interesting methods of modifying polyethylene is by subjecting the film to high-energy radiation.

A process has been developed by General Electric Co. for irradiating plastics with cathode rays. Small areas of different films irradiated to various degrees by General Electric's Milwaukee laboratory have been obtained. The low-temperature toughness of these irradiated samples has been investigated.

While the data are not complete enough at this writing to warrant presentation in tabular form, the following generalizations can be made.

1. High-intensity irradiation increases low-temperature and room-temperature puncture and tear strength up to 20%.

2. Tensile strength also is increased 10 to 20%.

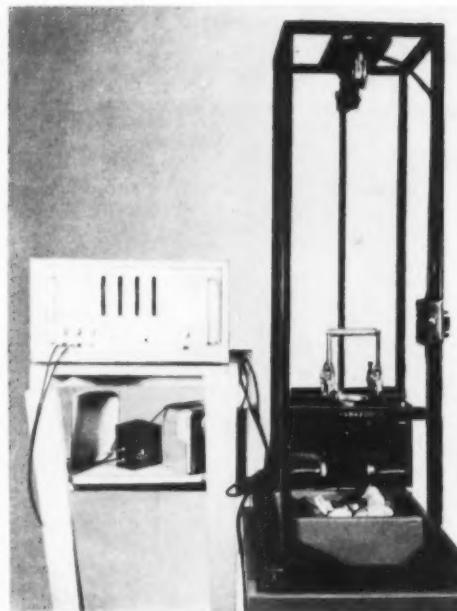
3. The cold-brittleness temperature is not lowered markedly. There ap-

3. LOW-TEMPERATURE cabinet used in the author's evaluation of polyethylene films.



TABLE III—LOW-TEMPERATURE TOUGHNESS OF MISCELLANEOUS PLASTIC FILMS

Film	Thickness	Cold-brittleness temperature (° C.)	Puncture-resistance in. lbs./mil -30° C.
1. Vinyl chloride copolymer (plasticized)	0.002	0-15	3
2. Polychlorotrifluoroethylene (unplasticized)	0.001	+30	4
3. Polychlorotrifluoroethylene (plasticized)	0.002	-71	16
4. Polyethylene terephthalate (Mylar—two-way oriented)	0.0005	-73 to -75	10
5. Polytetrafluoroethylene	0.001	below -74	13



4. FALLING-BALL puncture and tear-resistance tester. Velocity of ball after breaking through test piece is measured by use of two photo-electric cells and a Berkley Time Interval Meter.

pears to be an optimum level of irradiation, above which the cold-brittleness temperature is actually raised.

Gas permeability

The term gas permeability of plastic films is used to describe the flow of gases through an integral plastic film. Flow of gases through small discrete holes is termed porosity. Most of the methods for evaluating gas transfer through plastic films are concerned primarily with permeability, as it can be measured with much greater accuracy than porosity and in most applications is the predominating type of gas leakage. However, in applications where large areas of films are used (such as in balloons) or where the film is subjected to much mechanical action, porosity may become as important as, or even more important than, permeability. Gas leakage caused by porosity is not uniformly distributed over the entire plastic film and hence it is necessary to measure the porosity over very large areas to obtain meaningful values. No really good method for evaluating porosity, either qualitatively or quantitatively, has yet been found.

The gas-permeability measurements described here were conducted by

TABLE V—TYPICAL POROSITIES OF VARIOUS PLASTIC FILMS

	Permeability constant $\times 10^9$							
	$P = \text{cc. cm. sec. cm.}^2/\text{cm. Hg.}$							
	CO_2		H_2		O_2		N_2	
	20° C.	40° C.	20° C.	40° C.	20° C.	40° C.	20° C.	40° C.
Ethyl cellulose	4.10	4.70	2.60	4.00	2.15	3.40	0.66	1.05
Polyethylene	1.45	3.20	0.90	1.93	0.32	0.92	0.11	0.32
Polystyrene	3.50	3.90	9.00	9.20	2.42	2.35	0.78	0.77
Vinylite VB-1920	1.80	2.18	4.99	5.05	—	—	—	—

TABLE VI—PERMEABILITY OF MYLAR® (POLYESTER) FILMS AT VARIOUS TEMPERATURES

Gas	$P \times 10^9$ ($P = \text{cc. cm. sec. cm.}^2/\text{cm. Hg.}$)		
	0° C.	25° C.	50° C.
Helium	0.042 (0.21)°*	0.097 (0.70)	0.200 (2.00)
Hydrogen	0.025 (0.32)	0.058 (1.17)	0.120 (3.50)
Oxygen	—	—	Practically zero
Nitrogen	—	—	Practically zero

* Mylar is a trademark of E. I. du Pont de Nemours & Co., Inc.

** Figures in parentheses list the corresponding permeability for polyethylene.

Prof. Karl Kammermeyer at the State University of Iowa under contract to General Mills. They were the first measurements of this type on polyethylene films carried out at temperatures of minus 40 deg. and below.

Mechanism of gas permeation. As early as 1866, Graham (3) studied the flow of gases through rubber. He regarded this permeation process as a sequence of solution, diffusion and re-evaporation of the diffusing gas, a viewpoint which is still held today. More recently, permeation has been described in some detail by Brubaker and Kammermeyer (4). A gas will permeate whenever a partial pressure of that gas exists across the film. The rate of permeation is directly proportional to the partial pressure difference and inversely proportional to the film thickness.

The permeability characteristics of a film to a gas have been described by Brubaker and Kammermeyer in terms of a permeability coefficient. This coefficient is defined as the number of standard cubic centimeters (zero deg. C., 1 atm) of gas which will pass through 1 sq. cm. of film 1 cm. thick per second per centimeter of mercury partial pressure difference across the film. This value is determined at a constant temperature and the partial pressure difference across the film is held constant during the run. For polyethylene, it was found to remain remarkably constant for films of different molecular weights, different crystalline/amorphous ratios and different degrees of orientation.

The apparatus used for measuring the gas permeabilities listed in this

paper has been described in an earlier publication by Brubaker and Kammermeyer (5). A similar permeability apparatus also has been described by Carson (6).

The effect of temperature on permeability is more complex than the pressure or thickness effects. Kammermeyer has found the change in P , the permeability constant, with temperature is essentially unpredictable. The permeability effect varies from film to film and gas to gas. It may increase with temperature, remain unchanged or decrease.

In most cases the permeability varies exponentially with temperature. When the logarithm of the permeability is plotted versus the reciprocal of the absolute temperatures, a straight line results. Occasionally, a combination of gas and plastic film is encountered where this straight-lined relationship does not hold. This behavior cannot be explained satisfactorily on the basis of what is now known.

Happily, the permeability of polyethylene films decreases rapidly with a decrease in temperature. Also the straight-lined relationship has held in all films tested to date, so extrapolation has been relatively easy.

Fig. 2 shows how the permeability of polyethylene film to various gases decreases with temperature. This decrease, of course, is very significant in balloon work, since balloons often float at altitudes where the temperatures are minus 50 to minus 70 deg. C. Actually, at low temperatures the decrease in permeability became so marked that it became unimportant

and porosity, or the number and size of holes in the film, became the predominating factor. As Fig. 2 illustrates, the permeability at room temperature for helium is about 1,000 times what it is at minus 70 deg. C.

Both molecular weight and film orientation appear not to affect the permeability of polyethylene films to any significant degree. Thus, the actual permeability of polyethylene should be practically the same regardless of manufacturer or resin grade. The film thickness, of course, is very important.

Our studies were concerned primarily with polyethylene films and complete low-temperature data are available only for that film. However, some studies were made on other plastic films in the higher temperature ranges and these may be of interest. The results of these tests are listed in Tables V and VI.

Table VI lists permeability information on Mylar (polyester) film. This film has been attractive for potential balloon fabrication partly because of its very low gas permeability.

Gas porosity

As described before, porosity refers to gas transfer through some type of hole in the plastic film. The true porosity of any given film is very difficult to evaluate. For one thing, it is not uniform over the plastic film, but may be extremely high in one small section and non-existent over most of the film surface. Also, while a film may transfer gas only by permeation when new, it may, if subjected to mechanical handling, develop minute holes and lose gas by porosity also.

The hole size is the greatest factor which affects gas porosity. Kammermeyer and Osborn have shown that the rate of porosity decreases rapidly as the hole diameter decreases. The rate of gas transfer through holes 0.1 mm. and less is in the range of true permeability. Leakage through a 1-mm. hole is more than 100 times greater than leakage through a 0.1-mm. hole.

These studies have been primarily directed toward determining gas leakage through films to be used in balloon fabrication. Hence our primary concern is porosity at low temperatures. It has been shown earlier that permeability at low temperatures is only a small fraction of what it is at room temperature. Unfortunately, this does not seem to be the case with

TABLE VII—EFFECT OF PRESSURE DIFFERENCE ON GAS FLOW THROUGH SMALL HOLES (27° C., pressure 740 mm. Hg.)

Film thickness (in.)	Hole diameter (mm.)	D. P. (in. of water)	Rate of helium flow (cc./min.)
0.0015	0.2	0.60	38.5
		0.25	22.4
		0.10	10.2
	0.15	0.50	22.1
		0.25	11.0
		0.07	4.6

porosity. The volume rate of gas transfer through holes should theoretically be unaffected by temperature. Actually, in practice, this was found to be essentially true. Practically all of our porosity determinations were done at room temperature and it was assumed that the porosity would be the same at low temperatures.

It was pointed out that permeability varied directly with partial pressure difference. Porosity does not. It varies depending on the hole size, shape, absolute pressure, etc. Table VII shows how porosity varies with a pressure difference across the film. An increase in pressure difference has less effect on porosity than it does on permeability.

Effect of flexing

Plastic films in packaging encounter flexing often because of mechanical handling. This flexing, if severe enough, will increase the porosity of the film. The lower the temperature, the more this flexing will cause pinholing and hence increased gas porosity. Polyethylene film, which will stand almost unlimited flexing at room temperature, will become quite porous when flexed at minus 50 deg. C.

Table VIII shows how the flexing increases porosity and also how thicker films are much more resistant to damage from flexing than are thinner films. Films 2 mils thick are much superior to 1-mil films.

The instrument used to induce the mechanical flexing is similar to the Gelbo flex tester, but produces more severe twisting and flexing. The instrument was especially designed by General Mills to operate at very low temperatures. In addition to evaluating flex resistance, this instrument has been found useful in testing heat seals and tape adhesion at low temperatures.

The laminated films described earlier have been considered as a possibility for reducing gas porosity. The chance of two holes matching up in a

TABLE VIII—EFFECT OF MECHANICAL FLEXING AT -50° C. ON FILM POROSITY (Helium test gas)

Time of flexing	Loss because of flexing	
	1-mil film	2-mil film
0	0	0
5 min.	0.26	0.10
10 min.	0.28	0.13
15 min.	0.36	0.17
20 min.	0.48	0.27

laminated sheet of film is very slight.

Polyethylene-to-cellophane combinations seem to possess the desirable characteristics of each film. Such a combination is completely transparent and combines the low-temperature characteristics of polyethylene with the strength characteristics of cellophane. In our tests, however, we have found that rapid flexing at low temperatures breaks the cellophane in isolated spots and the sharp edges formed cut through the polyethylene, causing gas porosity.

Mylar-to-aluminum-foil laminates probably will also be subject to increase in porosity due to flexing at low temperatures for the same reason as polyethylene/cellophane laminates. Mylar-to-aluminum laminates also have the undesirable characteristic of being almost impossible to heat seal satisfactorily, as is the case with Mylar alone. While bonding by heat is possible, the heat sealing causes the film to disorient at the seal and thus lose almost all of its strength. A "good" Mylar seal might have, at best, 10% of the strength of the film itself. The strength of Mylar is one of its very outstanding properties. Films $\frac{1}{4}$ mil thick are considerably stronger than 1-mil polyethylene films even at low temperatures.

Acknowledgments

The authors wish to express their appreciation to the Office of Naval Research and to the Air Research and Development Command for sponsorship. (This article continued on page 216)

Fibre cans for Ordnance—II

Performance of spirally wound metal-end military containers with 'free foil' type of barrier. By E. H. BORKENHAGEN*

This is the second of two articles. In Part I, Mr. Borkenhagen discussed one series of tests covering the evaluation of spirally wound fibre cans with metal ends which used an aluminum foil-kraft laminated ply as a barrier for Method IA and Method II applications, covering various constructions, test loads and materials, test procedures and analysis of results.

Part II herewith is concerned with the performance of different constructions of spirally wound fibre cans with metal ends which used a "free foil" type of barrier, also for Method IA and Method II applications.

The entire two-part testing program occupied a year's time and was conducted as a joint project between members of the Forest Products Laboratory and the Ordnance Packaging Office at Rossford Ordnance Depot,

Toledo, with cooperation and samples furnished by the fibre tube and can industry.

The total of 958 spirally wound metal-end fibre cans used in this second series of tests were of one size, being approximately 3 in. in diameter and 5 in. in height, and were made of single-body, multi-ply, spirally wound fibre tubes fitted with one metal end at time of manufacture. Details of the four constructions investigated in this part of the study follow:

Construction A-a. First (inner) ply, Grade A, Type II, Class 1, Specification JAN-B-121 greaseproof barrier, overlapped and glued, not less than $\frac{1}{8}$ in., with dextrin glue, Specification JAN-D-232. Second ply, 0.024-in. chipboard, Specification 50-11-134. Third ply, 0.024-in. chipboard, Specification 50-11-134. Fourth ply, 0.024-in. chipboard, Specification 50-11-134. Fifth ply, 0.001-in.-thick free alumin-

um foil with $\frac{1}{8}$ -in. overlap. Asphalt adhesive was used to bond the foil overlap and to laminate the foil to adjacent plies. Sixth ply, 0.007-in. duplex kraft, Specification 50-11-88, overlapped not less than $\frac{1}{8}$ in., bonded with asphalt adhesive, Specification MIL-A-3029. Seventh (outer) ply, 0.006-in. asphalt-impregnated kraft, Specification 50-11-77, overlapped not less than $\frac{1}{8}$ in., bonded with asphalt adhesive, Specification MIL-A-3029.

Construction A-b. The A-b cans were constructed the same as the A-a cans except that in the fifth ply a water-resistant resin-type glue was used to bond the foil at the overlap and to laminate the foil to adjacent plies.

Construction B-a. First (inner) ply, Grade A, Type II, Class 1, Specification JAN-B-121 greaseproof barrier, overlapped and glued, not less than $\frac{1}{8}$ in., with dextrin glue, Specification JAN-D-232. Second ply, 0.024-in. chipboard, Specification 50-11-134. Third ply, 0.024-in. chipboard, Specification 50-11-134. Fourth ply, 0.024-in. chipboard, Specification 50-11-134. Fifth ply, 0.024-in. chipboard, Specification 50-11-134. Sixth ply, 0.007-in. duplex kraft, Specification 50-11-88, overlapped not less than $\frac{1}{8}$ in., bonded with asphalt adhesive, Specification MIL-A-3029. Seventh (outer) ply, 0.006-in. asphalt-impregnated kraft, Specification 50-11-77, overlapped not less than $\frac{1}{8}$ in., bonded with asphalt adhesive, Specification MIL-A-3029.

Construction B-b. The B-b cans were constructed the same as the B-a cans except that in the third ply a water-resistant resin-type glue was used to bond the foil at the overlap and to laminate the foil to the adjacent plies.

Construction C-a. First (inner) ply, Grade A, Type II, Class 1, Specification JAN-B-121 greaseproof barrier, overlapped and glued not less than

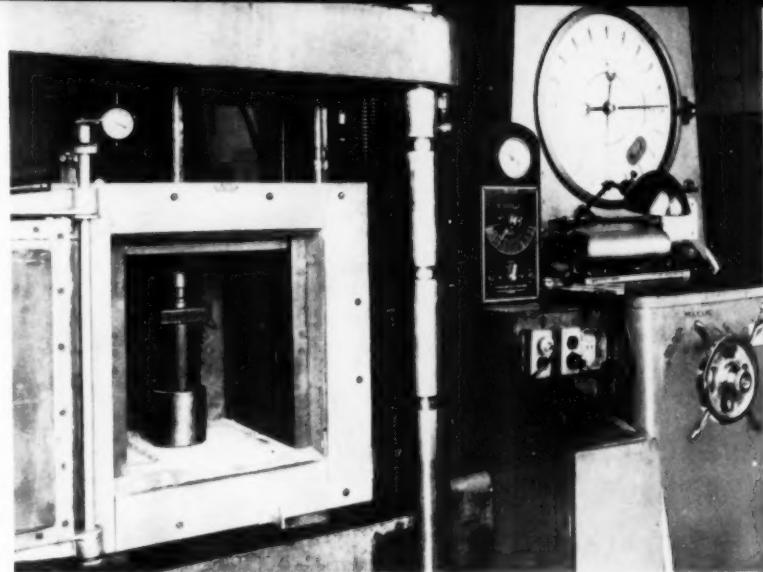


5. TYPE OF LOAD and arrangement of the interior packing of Method II fibre-can packs subjected to cyclic exposure tests.

% in., with dextrin glue, Specification JAN-D-232. Second ply, 0.024-in. chipboard, Specification 50-11-134. Third ply, 0.001-in.-thick free aluminum foil with $\frac{1}{4}$ -in. overlap. Asphalt adhesive was used to bond the foil overlap and to laminate the foil to adjacent plies. Fourth ply, 0.024-in. chipboard, Specification 50-11-134. Fifth ply, 0.024-in. chipboard, Specification 50-11-134. Sixth ply, same as third ply. Seventh ply, 0.007-in. duplex kraft, Specification 50-11-88, overlapped not less than $\frac{1}{4}$ in., bonded with asphalt adhesive, Specification MIL-A-3029. Eighth (outer) ply, 0.006-in. asphalt-impregnated kraft, Specification 50-11-77, overlapped not less than $\frac{1}{4}$ in., bonded with asphalt adhesive, Specification MIL-A-3029.

Construction C-b. The C-b cans were constructed the same as the C-a cans except that in the third and sixth plies a water-resistant resin-type glue was used to bond the foil at the overlap and to laminate the foil to adjacent plies.

Construction D-a. First (inner) ply, Grade A, Type II, Class 1, Specification JAN-B-121 greaseproof barrier, overlapped and glued, not less than $\frac{1}{4}$ in., with dextrin glue, Specification JAN-D-232. Second ply, 0.020-in. chipboard, Specification 50-11-134. Third ply, 0.001-in.-thick free aluminum foil with $\frac{1}{4}$ -in. overlap. Asphalt adhesive was used to bond the foil overlap and to laminate the foil to adjacent plies. Fourth ply, 0.020-in. chipboard, Specification 50-11-134. Fifth ply, 0.007-in. duplex kraft, Specification 50-11-88, overlapped not less than $\frac{1}{4}$ in., bonded with asphalt adhesive, Specification MIL-A-3029. Sixth (outer) ply, 0.006-in. asphalt-impregnated kraft, Specification 50-11-77, overlapped not less than $\frac{1}{4}$ in., bonded with asphalt adhesive, Specification MIL-A-3029.



6. TEST SET-UP used for top-to-bottom compression tests, showing sealed cabinet to maintain desired temperature for duration of test.

Construction D-b. The D-b cans were constructed the same as the D-a cans except that in the third ply a water-resistant resin-type glue was used to bond the foil at the overlap and to laminate the foil to adjacent plies.

The main difference in the four constructions of fibre cans just described is in the location of the 0.001-in.-thick "free aluminum foil" barrier material. Constructions A and C have the foil located near the outer surface of the fibre tube; B and D have the foil located near the inner surface.

Test loads and materials

Metal load. The load consisted of four standard steel test rods (SAE 1020 steel) approximately 1 in. in diameter, 3 in. in length and weighing about $\frac{1}{4}$ lb. each. One steel test rod which was cleaned according to Method C-5 of Specification MIL-P-116 was used as the corrosion specimen.

men. The four steel test rods were positioned in the fibre can by use of a single-face corrugated fibreboard side-wall liner and cellulose wadding at each end, as shown in Fig. 5. The other packaging materials used were similar to those previously described for the Part I tests.

Test packs and test procedures

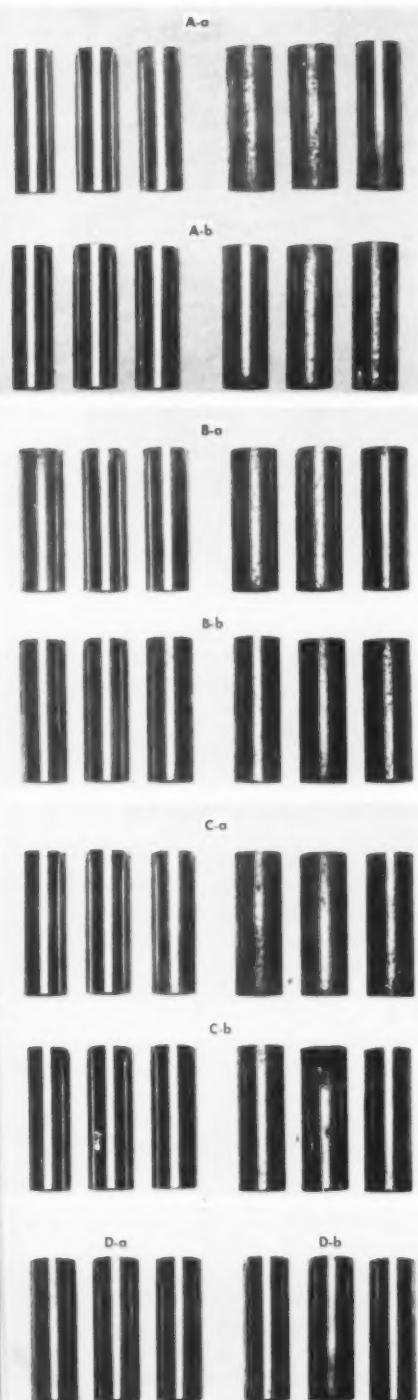
For water-vapor transmission tests. A total of 30 fibre cans from each construction group was prepared in the following manner:

1. Ten cans were sealed empty.
2. Ten cans were loaded with about 100 milliliters of anhydrous calcium chloride and sealed with metal ends.
3. Ten cans were loaded and sealed as described in Step 2 and then were further sealed by dipping the metal ends in a wax sealing compound to a depth of $\frac{1}{8}$ in. This wax dip was done to make certain that no leaks occurred at the metal ends.
4. The water-vapor transmission rate of the four constructions of fibre cans was obtained from the average moisture pick-up of enclosed desiccant during a set cycle of exposures in a standard humidity cabinet, as described in Part I.

For MIL-B-131 cyclic exposure tests. A total of 18 fibre cans from each construction group was prepared in the following manner: 12 of each 18 cans contained a 1-oz. bag and a 15-gm. bag of desiccant in addition to the load and cushioning material. The remaining six cans did not contain any desiccant and were used as

TABLE IV—WATER-VAPOR TRANSMISSION RATES OF FIBRE CANS WITH A FREE FOIL TYPE BARRIER

Construction group	Water-vapor transmission rates of fibre cans with: Standard closure only (Gm. of water/can/24 hrs.)	Standard closure plus wax dip (Gm. of water/can/24 hrs.)
A-a	0.015	0.015
A-b	0.020	0.020
B-a	0.160	0.130
B-b	0.175	0.175
C-a	0.010	0.015
C-b	0.020	0.020
D-a	0.140	0.140
D-b	0.120	0.130



7-10. TYPE AND AMOUNT of corrosion on standard steel test rods packed without desiccant in various constructions of fibre cans after subjection to MIL-B-131 cyclic exposure test. Corrosion varied from little or none (left, in each photo) to considerable (right, in each photo).

the corrosion control specimens. These fibre cans were overpacked and subjected to the MIL-B-131 cyclic exposure test, as described in Part I.

For MIL-P-116 cyclic exposure tests. The specimens for these tests were prepared in the same quantities and in the same manner as those for the MIL-B-131 cyclic exposure tests and subjected to the cyclic exposure test specified in Military Specification MIL-P-116, which is as follows: (a) 4 hrs. at 120 to 130 deg. F.; (b) 2 hrs. at 70 to 90 deg. F.; (c) 2 hrs. at zero to minus 10 deg. F.; (d) overnight at 35 to 50 deg. F.

Repeat this for three consecutive times and then continue as follows: (e) 4 hrs. at 120 to 130 deg. F.; (f) 2 hrs. at 70 to 90 deg. F.; (g) 2 hrs. of tap water spray at approximately 60 deg. F.; (h) overnight at 35 to 50 deg. F.

Repeat this second cycle four consecutive times and then open and inspect the package.

For top-to-bottom compression tests. A total of 40 fibre cans from each construction group was sealed empty and 10 of each group were conditioned in the following manner for a period of 24 hrs. before being subjected to the top-to-bottom compression test: (1) at minus 65 deg. F.; (2) at 72 deg. F.-50% relative humidity; (3) at 120 deg. F.; and (4) at 160 deg. F. A standard compression testing machine equipped with a sealed cabinet capable of maintaining the desired temperature for the duration of the test was used (see Fig. 6).

Analysis of test results

Water-vapor transmission rate. The results of the exposure tests of the fibre cans in the humidity cabinet indicate that the position of the "free aluminum foil" barrier in the wall of

the fibre cans influenced the entry of water-vapor into the cans. By basing the transmission of water-vapor into the cans by the increase in weight during exposure, it is seen that the water-vapor transmission rate of constructions A and C fibre cans which had the "free aluminum foil" nearer the outer surface of the wall was negligible. In contrast, constructions B and D fibre cans which had the "free aluminum foil" nearer the inner surface of the wall had relatively high water-vapor transmission rates. This high water-vapor transmission rate of constructions B and D is probably explained by the fact that the fibrous wall material with a low water resistance which is wound around the outside of the "free aluminum foil" barrier quickly picks up a considerable amount of moisture which may then wick over the foil barrier at the ends of the can.

There was no indication of moisture entry into the fibre cans at the mechanical seal made when sealing the metal ends to the fibre tubes. The water-vapor transmission rates of the different constructions are indicated in Table IV.

MIL-B-131 cyclic exposure tests. In general, the performance of the fibre cans prepared as Method II packs and subjected to the MIL-B-131 cyclic exposure followed very closely the same pattern as did similarly constructed fibre cans when exposed in the relative-humidity cabinet. The fibre cans constructed with the "free aluminum foil" nearer the outer surface (constructions A and C) performed better than those with the "free aluminum foil" nearer the inner surface (constructions B and D). There were signs of corrosion on all of the standard steel test rods placed in the fibre cans without any desiccant (used as

TABLE V—AVERAGE MOISTURE CONTENT OF DESICCANT IN FIBRE CAN AFTER DIFFERENT CYCLIC EXPOSURES

Construction group	Moisture content of desiccant ¹ after:	
	MIL-B-131 cycle	MIL-P-116 cycle
A-a	13.15	10.95 ²
A-b	13.25	11.70
B-a	21.35	9.40
B-b	22.40	10.05
C-a	13.35	9.90
C-b	13.85	10.55
D-a	18.50	8.50
D-b	18.90	9.80

¹ The average moisture content of the desiccant used at the time of placing it in the cans at the start of the test was 5.1%.

² Each value represents the average of desiccant from 12 cans.

TABLE VI—RESULTS OF TOP-TO-BOTTOM COMPRESSION TESTS

Construction group	Maximum load ¹ when conditioned and tested at:			
	-65° F.	72° F.	120° F.	160° F.
A-a	1,060	550	447	328
A-b	1,097	578	455	318
B-a	1,125	548	406	320
B-b	1,061	547	440	357
C-a	1,115	556	406	273
C-b	1,125	568	430	303
D-a	880	354	240	178
D-b	776	390	308	228

¹ Each value is an average of 10 tests.

controls), but the amount or degree of corrosion was not sufficiently consistent to form a basis for making a comparison of the performance of the different constructions (see Figs. 7 through 10). None of similar corrosion specimens which were placed in fibre cans containing desiccant were visibly corroded after being exposed to this cycle.

However, the increase in the moisture content of the desiccant in the various constructions of fibre cans did provide a basis for comparison. The moisture content of the desiccant in the fibre cans of constructions A and C increased from 5.1% to 13.2 and 13.8%, respectively, while that of the desiccant in the fibre cans of constructions B and D increased from 5.1% to 21.9 and 18.7%, respectively. Since Specification MIL-B-131 specifies that the moisture content of the enclosed desiccant shall not be greater than 15% after this cyclic exposure, constructions B and D are not acceptable for Method II packages.

Table V gives a summary of the average moisture content of the desiccant taken from the fibre cans after being exposed to the MIL-B-131 cycle.

MIL-P-116 cyclic exposure tests. The performance of the fibre cans prepared as Method II packs and subjected to the MIL-P-116 cyclic exposure did not provide data that could be used in measuring the performance of the different constructions. There were no fibre-can failures and no visible corrosion was evident on any of the standard steel test rods regardless of whether the packs were prepared with or without desiccant. The average moisture content of the desiccant taken from the fibre cans exposed to the MIL-P-116 cycle is also shown in Table V.

The entry of moisture was negligible in fibre cans with the "free foil" near the outer surface, while the entry of moisture increased considerably in the fibre cans constructed with the "free aluminum foil" located near the inner surface.

2. That only the type of fibre can constructed with the "free aluminum foil" located near the outer surface of the fibre wall is considered adequate for Method II applications as specified in Military Specification MIL-P-116.

3. That there was no significant difference in the water-vapor transmission rate of fibre cans constructed with one layer (Group A) or two layers (Group C) of "free aluminum foil" so long as one of the layers was located near the outer surface of the fibre tube wall.

4. That the top-to-bottom compressive strength of the fibre cans varied inversely with the temperature at which they were conditioned and tested.

Result

As a result of these two series of tests, the Ordnance Packaging Office and industry representatives developed Military Specification MIL-B-12147A (ORD), entitled "Containers, Shipping, Fiber Tube, Spirally Wound, Single Body Type." This specification provides the details for the construction of spirally wound fibre cans with metal ends that are acceptable for use in preparing Methods IC-4, 1A-5 and 1D packages and, accordingly, Ordnance Corps has approved their use for these methods.



11. TYPICAL FAILURE of fibre cans which have been subjected to top-to-bottom compression tests at various temperatures.

Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Rigidity and heat transfer

QUESTION: We are trying to develop a special-purpose package that must be very rigid and have good heat transfer. We have been trying various aluminum foil and paper laminations, but they show separation and poor heat transfer. Can you suggest a better material for our needs?

ANSWER: It would require a very unusual adhesive and special paperboard even to approach your needs for both stiffness and good heat transfer. Most laminating adhesives tend to make the resulting combination less rigid at elevated temperatures. Also many adhesives will blister or lose their tack when exposed to excessive heat. Paperboard is a better insulator than conductor of heat, as you have found by experience.

The best answer to your problem is to use heavier gauges of aluminum foil or sheeting. Aluminum is available in almost any thickness and in various degrees of hardness or temper. You might try 3- or 4-mil aluminum in a hard temper. This would be very rigid in package form and certainly would have a very high rate of heat transfer.

You may have some problems in handling this hard temper and if so you can try softer grades. A package formed of this material will be very protective if you can make tight closures and seams.

Closures for pottery containers

QUESTION: Our company is contemplating using a special pottery or hand-made glass bottle for one of our liquid products in the cosmetic field. We are trying to simulate an antique effect, but have had many leaks in the samples we have made up for tests. The closure is a cork, but apparently the irregularities in the bot-

ties present a tight fit even if the cork is oversized and forced into place. We would like to try wax or some other sealing agent to reduce leakage and to keep the cork in position. Do you believe this will solve our problem?

ANSWER: Pottery and hand-made glass containers can present a very difficult problem in making liquid-tight closures. Apparently the neck finishes vary in size and in some cases are not perfectly concentric. These two facts can make it almost impossible to get a good seal even with oversized corks.

The use of sealing compounds is not recommended unless the primary closure is effective. No sealing compound can be expected to make a reliable liquid-tight seal if the primary closure is not a good fit. You must also remember that the user will have difficulty opening a jar having a heavy coating of sealing compound plus a cork that has been forced into the bottle. Also the user may wish to reclose the bottle and that cannot be done with a distorted cork that fits poorly.

Your best answer is to insist that the manufacturers of the jars, both glass and pottery, improve the uniformity of the sealing zone. This might require an added operation of grinding out the necks to a uniform size, but the result would be well worth the cost because of the elimination of loss from leakers and user satisfaction in both opening and reclosing the containers.

Retention of flavor in bags

QUESTION: One of our products is packed in a printed polyethylene bag made from 2-mil film and heat sealed. This product is a crisp baked product which contains a special spice flavor. We are receiving complaints that the product after purchase by

the consumer has little or no flavor. We are very pleased with the handling and appearance of these polyethylene bags, but are concerned with the apparent loss of our special flavors. Is there any grade or brand of polyethylene film that will do a better job of holding flavor?

ANSWER: Polyethylene film will allow many volatile aromatic flavors and odors to pass through it quite readily at room temperatures. Even if your bag is perfectly sealed mechanically, the volatile portions of your spice flavor can migrate through the film and be lost to the atmosphere. This type of flavor migration or permeation is typical of all polyethylene films on the market today because this characteristic is inherent in the chemical nature of the resin.

It is possible that your flavor may also be lost by oxidation in storage. Apparently your product is packed with air in the package and that, plus the fact that polyethylene film is quite permeable to oxygen, could result in some loss of flavor from oxidation of the spices. Probably both of these conditions are occurring and the result could be a rapid and complete loss of aromatic flavors.

You might try other spices or flavor components that have less volatility and better oxygen stability. Your flavor supplier could suggest new materials with improved stability.

You might also try some of the many combinations of polyethylene and cellophane that are on the market. This laminated or coated material would reduce the loss of volatile flavors out of the package because such flavors cannot in general permeate through cellophane. However such a combination would not solve the problem of oxidation of the spices from air in the package at the time of filling and sealing.

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Equipment and materials

A CARTON AND TRAY FORMER AND GLUER

reported to be the fastest and most efficient machine of its kind ever built has been announced by the Peters Machinery Co., 4700 N. Ravenswood, Chicago 40. Called the Model SG, it automatically converts low-cost blanks into perfectly shaped glued cartons or trays, the company reports, at speeds of 175 or more per minute, exceeding by 50 to 75% the speeds of other available equipment. The unit is said also to operate efficiently at lower speeds of 50, 75, 100, 125 or 150 cartons per minute. It is easily adjustable and convertible to set up a wide range of top-opening, hinged cartons or trays, the manufacturer states, suitable for such food products as crackers, cookies, baked goods, tomatoes, fruit, candy, gum, cigarette cartons, drug items, hardware specialties, etc. Carton blanks in sizes from 6 to 18 in. long and 9½ to 22 in. wide can be handled. Blanks are automatically fed, with glue applied to the end flaps. As they are formed into cartons, they are held firmly in position by V-lock clamps while they rotate through the complete glue-setting cycle, which is said to assure perfectly squared and formed cartons. The machine, which occupies a floor area of only 5 by 6 ft. requires only one attendant.



A NEW METHOD OF PACKAGING FRESH CHICKEN is reported to be simple to operate and inexpensive to install. Developed by the Shellmar-Betner Flexible Packaging Div., Continental Can Co., 100 E. 42 St., New York 17, the new "Perfo-Roll" method is said to allow faster wrapping with less



waste motion. Operators pull perforated sheets of Shellene polyethylene off a roll, wrap the chicken and heat seal the wrapper. The package passes off on another belt, right-side up, ready for shipping or storage. The Shellene wrappers, printed and supplied by Shellmar-Betner, can be decorated in a variety of colors with sharp, clear printing or designs. Perfo-Roll sheets are stretch wrapped in close contact with the chicken and tray. The sheet is form fitting, eliminates voids and trapping of excess air, conserves moisture, allows carbon dioxide to escape and eliminates the need for store rewrapping, according to the company. The method is shown in operation at George I. Petit Poultry, Inc., Doylestown, Ohio, in the accompanying illustration. The Perfo-Roll packaging operation can be installed for

less than a \$400 investment, the company states. The dispenser apparatus is leased to users by Shellmar-Betner and the special heat sealer, Model CS 17-B, is available from the Great Lakes Stamp & Mfg. Co., 2500 Irving Park Rd., Chicago 18.

A NEWLY DEVELOPED ELECTRONIC COUNTER

capable of extremely accurate, high-speed counting has been announced by the Post Machinery Co., Electronic Div., 150 Elliott St., Beverly, Mass. Known as the Quadruple Preset Decitron, the unit permits totalizing counts in any quantity from one up to and including one million. Counts by dozens, hundreds, gross lots or any other combination are also possible for convenience in production operations. The Model PW4 illustrated is a preset counter which will tabulate any desired batch count from one to 10,000 and works in conjunction with a warning signal. For example, if a count of 4,850 is desired, the top set of switches is set to that figure and the lower set of switches is turned to 4,825. When the 4,825th article breaks the light beam, a sounding device is automatically operated.



NEW POLYETHYLENE-RESIN COMPOUNDS

recently developed by L. A. Dreyfuss Co., P. O. Box 500, South Plainfield, N. J., in cooperation with Bakelite Co., a Division of Union Carbide & Carbon Corp., 260 Madison Ave., New York 16, are reported to enable new packaging applications. Known as Ladco compounds, they are designed primarily for extrusion coating of packaging materials such as paper, board, foil and film. These compounds require only certain of the properties of Bakelite polyethylene, according to the company. Kraft paper coated with a particular blend of Ladco by the Lowe Paper Co., Ridgefield, N. J., is said to have high resistance to water-vapor transmission, lower cost, lower heat-sealing temperatures, higher gloss and improved release of packaged materials. Multiwall bags costing about 4% less than bags made of straight polyethylene-coated papers are fabricated by Arkell & Smiths, Canajoharie, N. Y., from compound-coated paper.

A NEW HIGH-SPEED HYGROSCOPIC POWDER FILLER

manufactured by Fr. Hesser A. G., Stuttgart, Germany, was exhibited at the recent Packaging Show by Geveke & Co., Inc., 25 Broadway, New York 4, exclusive representative for the German firm in the United States. The machine features a hydraulic vibrating mechanism which settles hygroscopic and fatty non-free-flowing powder materials such as milk powder, cocoa, cake mixes, chemicals, etc., in a working area of only 20 sq. ft. of floor space. A specially designed auger, readily accessible for cleaning, does the filling at a reported rate of 50 to 70 per minute and main-



Faster Capping!

Stepping up the output of your high-speed machines probably means using a stronger cap. But does that have to mean a more *expensive* cap? Not if you're changing to Armstrong's Hi-Tork® Caps.

Here's the simple reason why these caps can give you extra strength at no extra cost. Instead of adding costly extra plastic, the plastic in the cap is scientifically distributed for maximum strength. Each part—dome, skirt, and thread—gets exactly the share of plastic it needs for the stress it has to take.

The real proof, of course, is on your own lines. Check these caps yourself and see how they stand up under higher line speeds. We'll gladly help set up a test run. Call your near-by Armstrong office or write Armstrong Cork Company, Glass and Closure Division, 5306 Crystal Street, Lancaster, Pa.



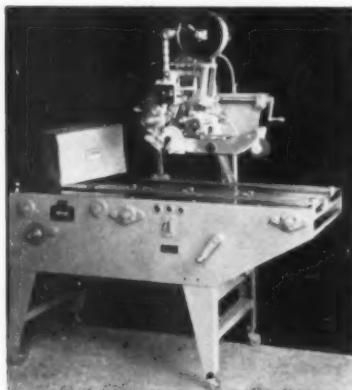
ARMSTRONG'S "HI-TORK" MOLDED CAPS

Perhaps "Oliver" has the answer to your labeling problem

ROLL-TYPE LABELS

Attractive and economical

The fine quality of "Oliver" diecut labels is well known. The stock has a lustrous surface; reverse side a special heat-seal coating. Offered in wide range of sizes and shapes. Ask for samples and prices.



LABEL IMPRINTER CUT-STACKER

Reduces inventory costs

Eliminates waste

Smart, custom design

It supplies heat-seal loose, cut, stacked, diecut labels for hand application. Imprints and stacks 140 labels a minute. Electric counter stops unit after predetermined number of labels is cut. Imprints label of standard design for immediate needs. Pays for itself!



A "blank" roll-type label is imprinted with title, and other information. Imprint items can be changed in a few seconds.



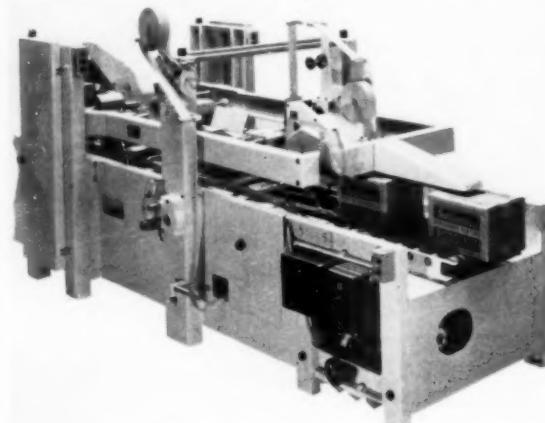
OLIVER MACHINERY COMPANY
GRAND RAPIDS 2, MICHIGAN, U.S.A.

Equipment and materials

tains close weight tolerances to $\pm 1\%$. A simply constructed exhaust duct assembly is said to assure dustless operation. Quantities of from 4 oz. to 2 lbs. can be handled by the machine, with a half-hour change-over from one size to another, according to the company.

AN AUTOMATIC CASE SEALER AND GLUER

soon to go into production at the Clybourn Machine Corp., 6479 N. Avondale Ave., Chicago 31, is an "Americanized" version of the very successful "Ceka" machine made in Sweden. This Type F-24 machine closes shipping containers either by pasting both side flaps and taping the top and bottom with

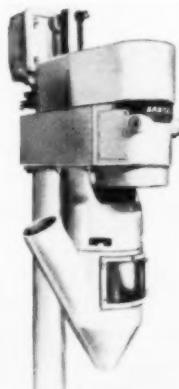


gummed tape, or closes the case solely with gummed tape. The machine, which does not require an operator, is said to be economic to run, since it consumes a minimum of glue and tape and eliminates the need for cardboard inserts or transverse taping. Containers are brought to the sealing section of the machine by conveyor. Container flaps are glued at the top and bottom simultaneously, then moved along to the taping mechanism which applies gummed tape to the whole length of the container and cuts it off automatically at a specific distance behind the trailing edge of the container. The machine handles a wide range of container sizes and resetting time for size changes is reported to be only 3 min. On request, the machine can be equipped with a special device making the sealing of containers of different sizes possible without resetting. Since the F-24 machine needs no special drying section, total length of the machine can be made quite short, approximately 16 ft. 1 in.

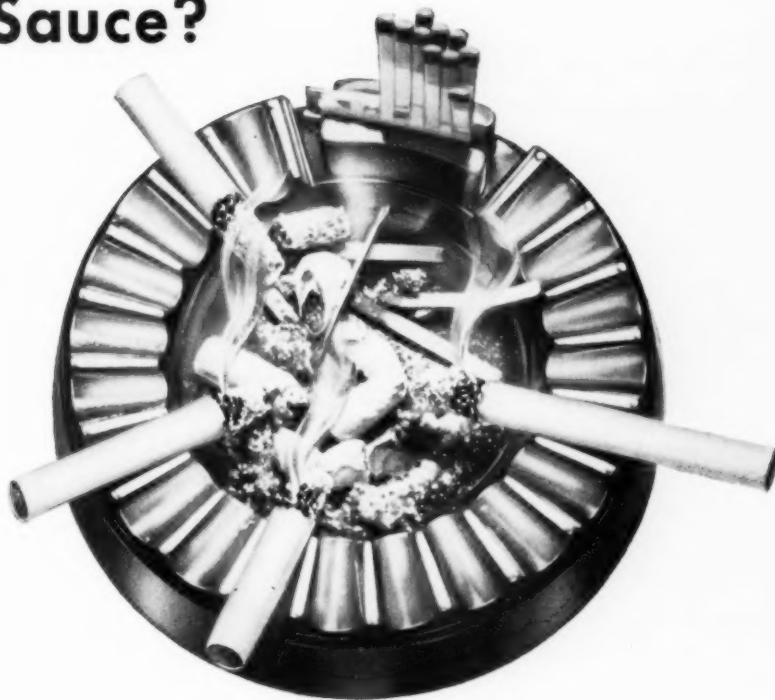
A NEW PRECISION FILLING MACHINE

for liquids, powders and viscous materials recently introduced by the Bartelt Engineering Co., Rockford, Ill., is reported to make up to 150 fills per min. and to hold filling tolerances to within $\pm 1\%$ of exact fill. This high degree of accuracy is attributed to the proper timing control achieved through the use of sturdy electric brakes and electric control circuits, using a positive mechanical timer.

Special features claimed for this new machine include machine-tool-type low-friction motor with quick and positive action, timing with a positive mechanical revolution con-



How would you package Honey-Butter or Barbecue Sauce?



Hard to package frozen or refrigerated food specialties are finding their way more and more into a bright new idea in sales packaging — the plastic-coated Sealright Alservis paper container.

Honey-butter or barbecue sauce . . . you can pack it easier, sell it faster in neat colorful, plastic-coated Sealright containers with "see thru" covers too.

Sealright sales packaging meets any production requirement — easily adaptable for hand-packing or high speed filling equipment.

Sealright
ALSERVIS NESTYLE
Plastic Coated Containers

OSWEGO FALLS CORP.—SEALRIGHT CO., INC., FULTON, N. Y.
KANSAS CITY, KANSAS—SEALRIGHT PACIFIC, LTD., LOS ANGELES, CAL.
CANADIAN SEALRIGHT CO., LTD., PETERBOROUGH, ONTARIO, CANADA.



Sealright Co., Inc., Fulton, N. Y. MP 546

Please send me some samples and more information on Sealright's newest idea in paper packaging for frozen food.

Name.....

Company.....

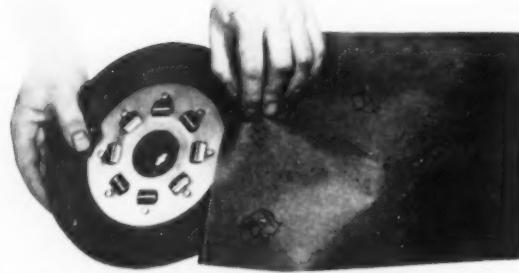
Address.....

City..... Zone..... State.....

here's the bag that broke a bottleneck

PACKAGE IT IN SECONDS . . . grease and oil coatings eliminated.

OPEN IT AND IT'S READY for immediate use . . . no de-greasing.



NEW CROMWELL FERRO-PAK®

—for rustproof packaging of all ferrous metal products

A manufacturer found it took almost as long to package clutch plates as to make them! Time was lost grease-dipping every part, wrapping, and packaging in heavy wooden boxes. Result: *shipments weren't keeping up with production*. He asked Cromwell for help, and our paper engineers had the answer in a hurry . . . a strong but lightweight *Ferro-Pak* paper bag.

Ferro-Pak broke the bottleneck. Now, as fast as they come off the production line, parts are bagged, sealed, slipped into lightweight containers and shipped for a fraction of former costs! Find out today how low-cost *Ferro-Pak* can help cut costs and increase efficiency in your plant.

Produced in compliance with Military Packaging Specification MIL-P-3420. At leading paper houses in rolls, sheets, bags, pouches, shrouds.



Cromwell Paper Company
4805 South Whipple Street • Chicago 32, Illinois

Send free samples and complete information on *Ferro-Pak*.

Name _____

Firm _____

Type of Products _____

Address _____

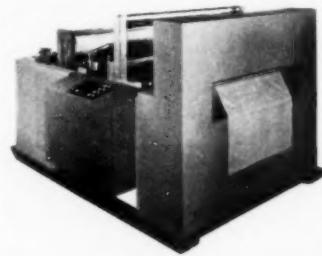
City and State _____

Equipment and materials

trol counter, spun stainless steel hopper with quick-release clamps for easy cleaning and a complete range of feeder toolings all easily interchangeable.

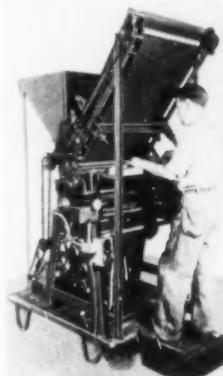
AN AUTOMATIC POLYETHYLENE BAG MAKER

that exceeds the size range of bag makers heretofore available for this purpose has been announced by Packaging Industries, 50 Church St., Montclair, N. J. The equipment produces drum liners up to 46 by 65 in., or even longer by means of a built-in skipping attachment. Bags of smaller size for fruit, produce and other products may also be made from either flat or gusseted polyethylene tubing. The material is held under pressure during both the heating and cooling cycles, which avoids strain on the polyethylene that might cause distortion at the seal, according to the manufacturer. A special arrangement enables bags for packaging fruits and vegetables to be produced automatically with a squared-up bottom and heat seals at the sides. These bags are produced two at a time from gusseted tubing. Speed of production depends upon bag sizes and film gauges used, but speeds in larger-sized bags are said to exceed by far present methods.



AUTOMATIC CYLINDRICAL PAPER-TUBE LABELER

known as the Model TL-1 applies glue to labels, then forwards the labels automatically to the labeling station where they meet tubes which are automatically time fed from a hopper. The label is accurately registered in relation to the ends of the tube, according to the Potdevin Machine Co., 285 North St., Teterboro, N. J., maker of the machine. The label is wrapped around the tube and the labeled tube then is carried from the labeling station between the traveling conveyor belts which hold the label onto the tube while the glue is setting. Tube diameters the machine will handle range from $\frac{3}{8}$ to $1\frac{1}{8}$ in. The hopper is adjustable for tubes up to 27 in. in length. Patented devices are said to assure complete glue coverage of the entire label so that both leading and trailing edges are definitely adhered to the tube even when using varnished or waterproofed labels. Tight labels are obtained even on thin-wall paper tubes, the company reports, and an arrangement prevents a label from being fed when a tube is not in proper receiving position. Speed range of the machine is reported at 30 to 60 tubes per minute.



A NEW COATING FOR GLASSINE PAPERS

for food packaging, sold under the trade name "Clarophane," is being offered by the Rhinelander Paper Co., Rhinelander, Wis. Five years of research in the company's laboratories went into the development of this new coating, which is reported to have twice the moisture-vaporproof qualities of most nitrocellulose lacquers. In addition, the manufacturer claims that its excellent heat-sealing qualities will give top performance on automatic



...and greetings to a profitable idea!



Why is this card wrapped in cellophane? Customers just naturally like to handle greeting cards. Handling means fingerprints and fingerprints destroy cards. Now, here's an idea as practiced by smart retailers . . . each sample card is individually wrapped in Sylvania Cellophane. Ideal for self-service. Remember, only cellophane gives protection plus sparkling eye appeal—at a price with budget appeal. Does this give you a profitable idea? Talk it over with your Sylvania man today. Sylvania Division, American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pa.

Has soiling turned thumbs down on your profits? Let Sylvania Research tackle the problem—show you how to "keep it clean" with cellophane packaging.

AMERICAN VISCOSE CORPORATION
AVISCO YARNS AND FIBERS: SYLVANIA CELLOPHANE





30 Years of Packaging Progress!

Founded in an era when food was spot-packaged at the point of sale, DIXIE has kept abreast of every new development in flexible packaging, today being recognized as one of the leaders in the field. More than a quarter century of experience and specialization gives DIXIE an enviable position in the growing packaging industry.

4 Modern Plants

With four modern plants strategically located in the U. S. and Mexico, with printing facilities including Flexographic, Letterpress and Rotogravure, along with the latest type fabricating equipment, DIXIE is prepared to handle practically any flexible packaging problem arising in the protection, preservation and merchandising of foods.



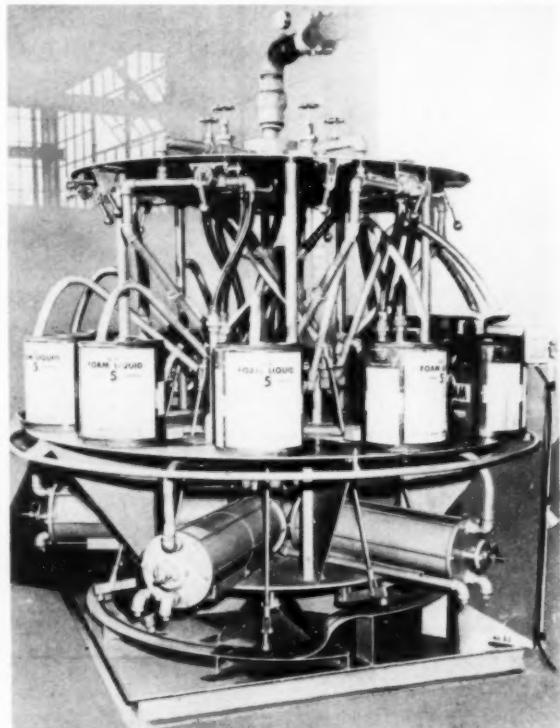
DIXIE
Wax Paper Company
DALLAS • MEMPHIS • WASHINGTON, N. J. • MEXICO, D. F.

Equipment and materials

bag equipment. Glassine bearing the new coating has been field tested for over a year with very satisfactory results, the company reports.

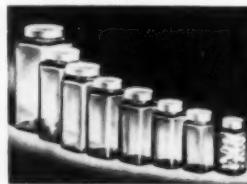
A NEW ROTARY FILLING MACHINE

for large-quantity liquid handling of 5-gal. cans has been developed by the Drum Equipment Corp., Union, N. J. Adjustable to the nature of the liquid being dispensed, the machine is said to be capable of filling up to 20 cans per min. at a continuous rate of speed. Only two men are required for its operation, one



to feed empties onto filling stations and one to remove and cap filled cans. No lifting is required. Conveyors are brought to the unit so that cans are simply fed to and from filling positions. There are 10 filling stations on the rotary table drive, each adjustable to 5-gal. volume, plus or minus one pint. A supply line from the source of material enters from the top. The liquid then flows to a cylinder beneath the table and from there by positive displacement is delivered to the cans. The manufacturer claims that the accuracy of each charge is within 1 cu. in., or 0.001155%. The machine is placed in a level area of 50 sq. ft., with no special set-up required.

NEW CLEAR SQUARE PRESCRIPTION CONTAINERS for capsules and tablets, offered by the Owens-Illinois Glass Co., Toledo 1, Ohio, are designed to meet the needs of retail druggists who prefer clear containers for dry prescriptions to match the clear vials they may be using. This new line of Duraglas Clear Dry Rx Squares supplements the company's Emerald Green Dry Rx line. The line includes eight sizes, ranging from 1



Equipment and materials

to 16 oz. White molded closures have improved plastic-coated, aluminum-foil liners, which Owens-Illinois reports assures maximum protection for dry prescriptions.

A FULLY AUTOMATIC WEIGHER AND FILLER

developed by Autopack, Ltd., Birmingham, England, for rapid precision weighing and filling of milk powders and similar light, bulky powders, is now available in the United States through Autopack, Ltd., 50 Church St., New York 7. Mechani-

cal vibration and final pressure is applied to settle the powder in the same machine as an integral part of the weighing and filling operation. Containers are fed into the machine by a conveyor which can link up with other equipment and are diverted into two rotors which feed them to filling position. Powder is weighed in from four weighing machines reported to give an accuracy of $\frac{1}{2}\%$ over-all tolerance for quantities of $\frac{1}{4}$ to 1 lb. While being carried to the out-

let, vibration is applied to settle the material down to the required level in the container. Spring-loaded funnels with soft rubber washers seat on top of the containers, surplus material being retained by this funnel and the feed plate above it and is vibrated down as the containers pass through the machine. Pressure is then applied to complete the settling down of the powder and filled containers discharge on to the outlet conveyor which links up with the seaming machine. Speeds are reported at up to 50 per min. Other new machines available from the New York Autopack office are a double-beam high-speed tea weigher; a vibrator-feed weighing machine for confections; a machine for vial filling, rubber stoppering, capping and sealing; and a vibrator-feed weigher machine for high-speed weighing of lumpy and irregular materials.

LOW-COST SEMI-AUTOMATIC LOLLYPOP WRAPPER

that twists and heat seals 30 or more lollipops a minute, formerly produced by the I. L. Mitchell Co., is now being manufactured by the Ebert Electronics Corp., Wrapper Div., 212-26 Jamaica Ave., Queens Village 28, N. Y. The

Mitchell Super-Speed cellophane lollipop wrapper is simply constructed, with no intricate parts. Heads are interchangeable for various pop sizes. Operation is by means of an adjustable foot pedal, which

leaves the operator's hands free for feeding. The 25-lb. unit is recommended as an auxiliary or emergency machine.

TWO NEW STOCK CELLOPHANE BAGS

being offered by The Dobeckmum Co., P. O. Box 6417, Cleveland 1, Ohio, are the P-1-W to accommodate larger heads of lettuce and a new produce bag designated P-7 (or PM-7 for this bag with price-marking panel). The lettuce bag measures

(Continued on page 168)



If You Print
Packaging
Materials:

It will pay you
to investigate
**PLASTIC
& RUBBER
Printing Plates**

The odds are that your packaging can be printed better, faster and with less down time by using new developments in rubber or plastic printing plates.

We will be happy to send you the name of a reliable platemaker in your area who will show you the advantages of the latest developments as they apply to your specific requirements. There is no obligation whatsoever.



WILLIAMSON
AND COMPANY, Incorporated
Caldwell, New Jersey

Foremost Supplier of Machinery, Materials and Methods
for Rubber and Plastic Platemaking Essentials.

Make it convenient to use and re-use your product

All that advertising and promotion can hope to do for a packaged product is to get people to ask for it — or look for it — in a store. If, on inspection, the package seems awkward or hard to use, sales will be disappointing.

Again, a package may have design faults that do not show up until the product is taken into the home. There, these faults will lessen considerably the chance of repeat sales. The responsibility of the package is multiplied when the product is not consumed all at once. For an item that is used over a period of weeks or months, the package can be a constant pleasure — or a continuous source of annoyance.

Creating an efficient package is an intricate and exacting art. For instance, you must anticipate any possible obstacles to easy use. You must make the package sturdy, attractive and of handy size. You may also include special "convenience" features such as are incorporated in the Continental packaging shown on the opposite page.

Questions to ask yourself

From their long experience, Continental creative packaging experts have set up questions to guide them in approaching the problem of packaging products for convenient use and re-use. You may find them helpful:

1. Should the package be of convenient size to store on a pantry shelf or in a small medicine cabinet?
2. If it is to be used on the family table or in a dressing room, how can it be styled or decorated for pleasing appearance?
3. How will the contents be used? Should the top be wide enough to admit a spoon? Should there be a sifter top, spray valve or other dispensing features?

4. What kind of closure will best prevent spilling, leaking or admission of humidity... permit simple reclosure? (Screw top, press-on top, cap, coverall lid, tin ties, etc.).

5. If the package is to be carried in the pocket or handbag, should it be especially designed for ease in opening and re-closing?

6. Can a "mother" package be devised so that individual portions will remain protected until all are consumed? If not, can the package be designed to signal when it is time to re-purchase?

7. Will the package be refrigerated? If so, is it moistureproof and economical of space? Would a special opening feature be helpful?

8. Is there any reason why this product has to be packaged in a container of conventional form? Can the product be adapted for more convenient use in an aerosol can, squeeze bottle, foil or cellophane wrap, etc.?

9. As an extra buying incentive, can the package be designed so it will serve for other purposes (re-use) after the original contents are gone?

10. Does the label tell the complete story: What is in the package, what can be done with it, recipes, how many servings it contains or how long it should last, under what conditions it should be stored?

There are many other questions that will need to be answered before a successful package can be designed for any product. The nature of the product itself and the packaging method enter into the picture, as does the money that can be economically allotted for packaging.

Continental people welcome difficult problems. With more materials at our command than any other U. S. packaging concern, we are able to produce a tailor-made, easy to use package for nearly any product you can name.

TAILOR-MADE
PACKAGE SERVICE



Top directs powder-flow to the brush



Bend-back tabs re-close bag securely



Just push the button and spray



Each service in an individual envelope



Defrosts quickly in warm water



Container "shrinks" as contents are used



After-use value creates buying urge

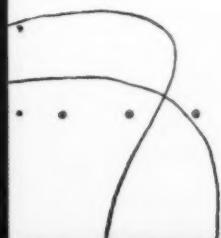


Pouch container appeals to smokers



Quick squeeze dispenses contents

All these Continental packages have built-in features that make them a pleasure to use and re-use. They win first and repeat sales for worthy products.



• **CONTINENTAL**  **CAN COMPANY** •

CONTINENTAL CAN BUILDING 100 EAST 42nd STREET • NEW YORK 17 • N.Y.

**DON'T HIDE
YOUR PRIDE!**

**DRESS UP YOUR PACKAGES
FOR COLORFUL EYE
AND SALES APPEAL**

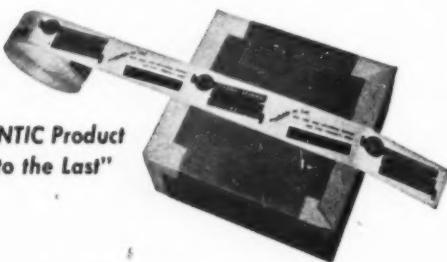
...with



4 Color Printed Kraft Gummed Sealing Tape

4 Points to remember about On-To-Sta 4 Color Sealing Tape

- ★ Every carton and package leaving your plant carries your 4-colorful advertising message everywhere.
- ★ Your packages are padlocked with your company's name—they're pilferage proof. Dust and dampness are locked out.
- ★ On-to-Sta tape is of uniform top quality. It seals securely and remains perfectly flat.
- ★ Our creative art staff will skillfully prepare art work for 4-color tape to fit your particular needs.



An ATLANTIC Product
"Sticks to the Last"

Ask your local jobber about
ATLANTIC'S 4 Color Tape,
or contact us directly.

ATLANTIC GUMMED PAPER CORPORATION
PRINTED TAPE DIVISION
1 MAIN STREET • BROOKLYN 1, N.Y.

BRANCH OFFICES:
PHILADELPHIA • PITTSBURGH • CHICAGO
BUFFALO • BOSTON • HAVANA

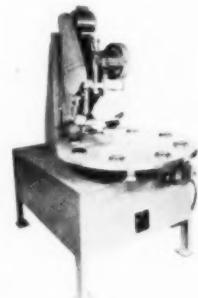
Equipment and materials

(Continued from page 165)

6 $\frac{1}{2}$ by 4 $\frac{1}{2}$ by 10 in., is made from 300 MSAT film and is designed to accommodate the larger heads of lettuce now being packed by the vacuum-cooled process. The produce bag, measuring 6 by 2 $\frac{1}{2}$ by 10 in., is designed for packaging 1 to 2 lbs. of grapes, three or four ears of fresh corn, or any of several other produce items.

A NEW SEMI-AUTOMATIC MARKING MACHINE

designed specifically for handling articles whose shape requires flat surface marking is available from the Markem Machine Co., Keene 42, N. H. Designated the Model 25AD, it will print descriptive data or decorative designs on items such as paper or plastic covers for ice-cream and food containers, refrigerator dishes, plastic novelties, etc., at speeds of from 30 to 60 printing strokes per minute. The multiple-station dial feed is hand fed or readily adaptable to special feed or automatic discharge mechanism. Work-holding fixtures may be easily changed to suit size and shape of article being marked. Precision molded printing elements are simple to mount, according to the manufacturer, and provision can be made for rapid change-over of variable information. Printing area measures 11 in., left to right, and 5 in. front to back.



A SPECIALLY FORMULATED ADHESIVE

for adhering paper to polystyrene, unpigmented vinyl film to paper and board, laminating heavy foil to paper and adhering cork to wood or metal is being offered by the Federal Adhesives Corp., 210 Wythe Ave., Brooklyn 11. This "C-62 Adhesive" may be applied by hand or machine and is said to possess excellent machining qualities for both semi-automatic and fully automatic equipment.

AN IMPROVED LABEL HOPPER

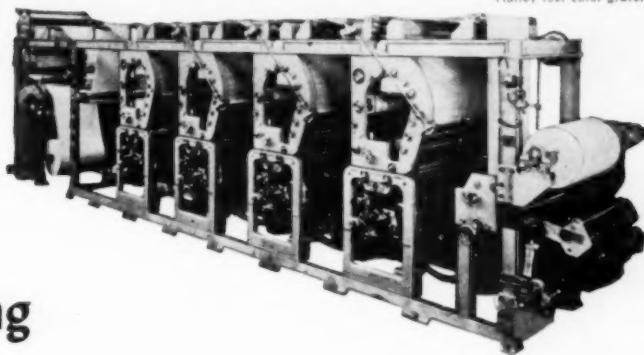
in the Amsco jaw bag sealer that enables rapid change-over to different-width labels has been announced by Amsco Packaging Machinery, Inc., 31-31 48th Ave., Long Island City 1, N.Y. This new label device, which accommodates labels from 2 $\frac{1}{2}$ to 8 in. wide, operates by a simple hand-screw adjustment which simultaneously centers the label in relation to the sealing jaws while re-adjusting the width of the hopper. As in earlier models, the labels can be folded back to back, or shorter back and longer front for a generous label-design message. Labeling and sealing are done in a single operation in the Amsco sealer. With the filled bag in position, bag top and label are guided automatically between the sealing jaws, while simultaneously another single label is packed from the bottom of the hopper by a vacuum attachment. Danger of spillage is eliminated by having bags fed into the machine in a vertical or near-vertical position. The 1954 Amsco handles square, rectangular and die-cut labels made from either casein or thermoplastic stock. It automatically header labels and seals cellophane, polyethylene, Pliofilm and other heat-sealable materials.

CONTRACT VACUUM FORMING OF PLASTICS

is now being offered by Printloid, Inc., 93 Mercer St., New York. The company reports it is equipped to form such materials as cellulose acetate, butyrate, styrene and vinyl in thicknesses ranging from 0.010 in. through 0.125 in. from inexpen-



50 years of research and engineering



*Halley four-color gravure

HALLEY gravure presses successfully solve the problem often encountered of frequent stock changes. Job tickets may vary from transparent film to foil, paper or laminates to polyethylene . . . Halley time-saving operation remains constant.

HALLEY advanced design includes: flying splice (unwind and rewind), full automatic web tensions

with dial indicators . . . Printing on air, both sides of web . . . High velocity air dryers . . . Interchangeable printing units . . . Web break detectors and stroboscope visual aid. Change gears are not required.

*The standard 4-color gravure press illustrated above is susceptible to modification to suit specialized requirements.

Halley Rotopress Corporation, 3310 North Ravenswood, Chicago, Illinois

FLEXOGRAPHIC (ANILINE) — LETTERPRESS & GRAVURE ROTARY PRESSES

HAMMER



BRANDS

**TAILOR MADE PAPERS
FOR PROTECTIVE PACKAGING
FOR FOODS • TOBACCOS
PHARMACEUTICALS • METALS**

GLASSINE

TRANSPARENT • OPAQUE

WHITE • COLORED

PLAIN • WAXED • TREATED • COATED

WAX LAMINATED

GLUE MOUNTED

ALSO TO FOILS • FILMS • KRAFTS

AIR-TIGHT

ODORPROOF

GREASEPROOF

MOISTURE PROOF

HIGH DENSITY

PRINTABLE

FLEXIBLE

HIGHEST QUALITY • PROMPT SERVICE

**THE HAMERSLEY MFG. CO.
PAPERMAKERS**

GARFIELD

NEW JERSEY

"77 Years of Service to the Food Industry"

A COMPLETE PLASTIC PACKAGING SERVICE

Everything

**UNDER ONE
ROOF!**



PLANNING

DESIGNING

TOOL MAKING

MOLD MAKING

INJECTION MOLDING

ASSEMBLING

IMPRINTING

Let CLAREMOULD design-engineers develop the plastic package which will put your product far ahead in sales and profits. From start to finish, you can depend on CLAREMOULD for expert workmanship, economy, and prompt service.

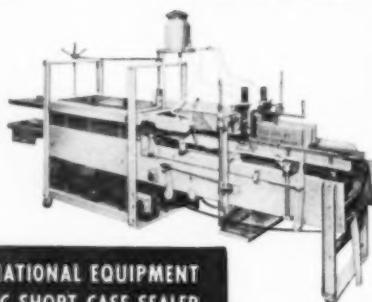
Inquiries Invited.

Claremould Est. 1926
PLASTICS CO.
200 WRIGHT STREET • NEWARK 5, N. J.

The talk of the packaging show...

Exclusive

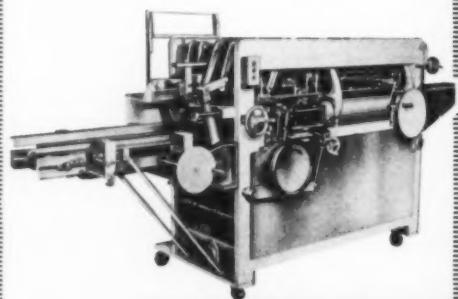
NEW REVOLUTIONARY FEATURES
enthusiastically acclaimed



NATIONAL EQUIPMENT
SC SHORT CASE SEALER

National has perfected it... the finest case sealing machine with new revolutionary gluing device.

- No glue rollers to clean.
- Rapid case size adjustment.
- Overall space only 11 ft.



NATIONAL EQUIPMENT
WR 100 OVERWRAP MACHINE

- Quick change by handwheels from one size box to another in a matter of minutes.
- No changeover parts whatsoever required for different size packages.
- No tools needed for changeover.

These new innovations in packaging are the result of many years of creative engineering research and development.

WE CAN SOLVE YOUR
PACKAGING PROBLEMS
Tell Us Your Requirements

National Equipment Corporation

Packaging Division

153-157 CROSBY STREET

NEW YORK 12, N. Y.

Equipment and materials

sive molds to customer specifications. The company has facilities for spraying, silk screening and letterpress printing of vacuum-formed plastics.

A RUBBERIZED CUSHIONING MATERIAL

reported to have exceptional resilience, toughness and durability has been developed by the Columbian Rope Co., Auburn, N. Y. Called Co-Ro-Tex, this latex-treated cushioning material was developed by Columbian's Allied Products Division at a cost of

approximately a quarter-million dollars. The material is said to be odorless, dust and lint free, and reportedly will be priced up to 40% below other rubberized cushioning products. It is available in flat sheets, 25-yd. rolls or in die-cut shapes; in three densities—firm, medium and soft; in widths up to 72 in. and in thicknesses ranging from $\frac{1}{8}$ to 4 in. Greater thicknesses can be made by lamination.

A NON-WARP FLEXIBLE ANIMAL GLUE

for use on paper specialties, set-up boxes and as an adhesive for paper, leather and leatherette coverings and liners has been introduced by Swift & Co.'s General Adhesive Products Dept., Union Stock Yards, Chicago 9. Known as Econoflex, it is designed for hand application, semi-automatic or automatic machines.

A NEW THIN-WALL POLYETHYLENE BOTTLE

offering many of the same characteristics of the original squeeze bottle, designed for single-use packaging, has been developed by Plax Corp., West Hartford, Conn. First application of the disposable unit is the packaging of a professional-use enema by C. B. Fleet Co., Lynchburg, Va.

A STOCK BOX FOR HAT MANUFACTURERS

or for department-store use, being offered by S. Rappaport, Inc., 155 Ave. D, New York 9, is smartly designed for use anywhere in the United States. The cover, which carries a pictorial map of the United States, also has the names of various cities printed around the edge. Base of the box illustrates scenes in New York, Niagara Falls, etc. This is a companion design to the company's French-designed box.

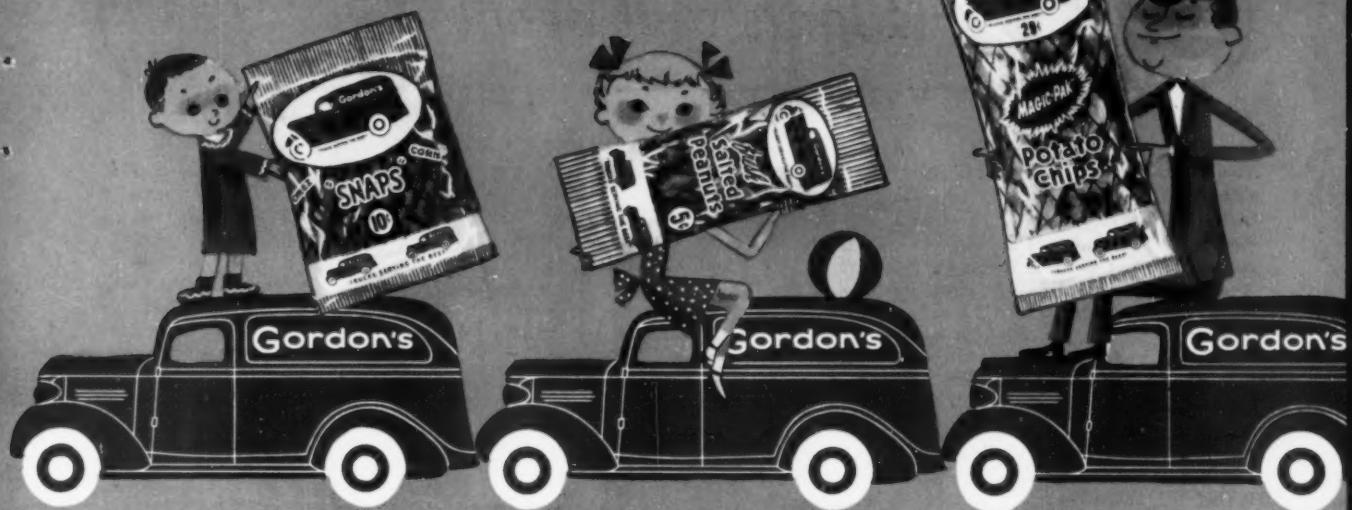
AN ADHESIVE FOR BONDING STYROFOAM

has been announced by the Adhesive Products Corp., 1660 Boone Ave., New York 60. Unlike most conventional cements, this transparent adhesive, known as Styrogrip, is said not to disturb or collapse the Styrofoam structure.

A NEW SMALL ROTOGRAVURE PRESS

developed by the Mt. Vernon, N. Y., Div. of American Type Founders, 200 Elmora Ave., Elizabeth 2, N. J., is designed primarily for printers wishing to enter the rotogravure field, but is valuable as auxiliary equipment for those already in the field. Relatively low in cost, this new Economette press is precision made to the same standards and close tolerances of other ATF-Klingrose rotogravure equipment, according to the company, and is capable of printing in two colors at speeds up to 250 ft. per minute. It will handle cellophane, glassine, polyethylene, laminated foils or paper in widths up to 31 in.

the family touch...



GORDON shows 'em...



and SELLS 'em... WITH SPARKLING **Milprint** PRINTED CELLOPHANE!

Here's a "family" that knows the secret of making friends fast—the Gordon Foods family! One reason is the attractive color and sparkle of the Gordon package—Milprint precision-printed Cellophane—that combine outstanding eye-appeal with superior product protection, so Gordon products look good, stay good...and win repeat sales.

Whether yours is one product or a "family," put your best foot forward with handsome, self-selling Milprint packages. Remember, Milprint

offers the widest variety of packaging materials and printing processes available anywhere...so call your Milprint man—first!

Milprint INC

LITHOGRAPHY & PRINTING

General Office, Milwaukee, Wisconsin • Sales Offices in Principal Cities

This insert printed by Milprint, Inc.

Printed Cellophane, Pliofilm, Polyethylene, Suran, Acetate, Glassine, Foils, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material

Plants and people

The boards of directors of **Mathieson Chemical Corp.** and **Olin Industries, Inc.**, both of New York, have voted unanimously to submit to their stockholders a proposal to merge the two companies. The announcement was made jointly by **John M. Olin**, president of Olin Industries and **Thomas S. Nichols**, president and chairman of Mathieson. The name of the new company will be **Olin Mathieson Chemical Corp.** Following the merger, Mr. Olin will become chairman of the board of the new firm and Mr. Nichols will become president. **John W. Hanes** is chairman of the finance committee.

The expansion program of the **Federal Paper Board Co., Inc.**, Bogota, N. J., has not yet been completed, according to a report made by **John R. Kennedy**, president, to stockholders at the company's recent annual meeting. Changes that have been made in the company's properties and plants will be followed by additional forward-looking steps, Mr. Kennedy stated, to strengthen the firm and enhance its profit possibilities.

A new graphic design service known as **Penson-Tuttle** has been established by **John B. Penson** and **James B. Tuttle**, with offices at 101 E. Ontario St., Chicago.

Rodney C. Gott has been named executive vice president of **American Machine & Foundry Co.**, New York.

The H. B. Fuller Co., St. Paul, Minn., has completed the third major expansion of its Atlanta, Ga., plant since 1949 when it began manufacturing adhesives there. The recent addition gives the Atlanta plant about four times its 1949 capacity.



Chase Bag Co., Chicago, has promoted **J. P. Widlar** to the company's Paper Bag Div. Mr. Widlar will work directly with the general sales office in Chicago in the sale and promotion of multiwall and consumer-size paper bags. He will make his headquarters in the Kansas City, Mo., offices of the company.

Atlas-Boxmakers, Inc., Chicago, has elected **Victor E. Hemming** as vice president. Mr. Hemming will be in charge of corrugated and solid fibre box sales.

The Sylvania Div., American Viscose Corp., Philadelphia, Pa., has appointed

William Hadfield as salesman in the Philadelphia branch.

Emil M. Farris, Sylvania's New York district sales manager, will be transferred to the Philadelphia general sales office to work on special assignments under the direction of **John W. Little**, sales manager. **Thomas O. Williams** will assume Mr. Farris' former position in New York.

Equitable Paper Bag Co., Inc., Long Island City, N. Y., specialty paper bag manufacturer, has opened a polyethylene bag division.

William W. Pflug, general sales manager of **Sun Tube Corp.**, Hillside, N. J., has been elected vice president in charge of



Mr. Pflug (left) and
Mr. Curtis

Curtis, Jr., has joined Sun Tube as products manager in charge of tube sales. Mr. Curtis was formerly with Plax Corp.

J. J. MacFarland has been promoted to the newly created post of assistant to the general manager of the Plastics Div. of **Celanese Corp. of America**, New York.

Robert Gair Co., Inc., New York, manufacturer of folding cartons, paperboard and shipping containers, has re-elected all members of its board of directors and appointed **William H. Caddoo** as vice president in charge of boxboard operations. **Norman F. Greenway** and **Raymond F. DeVoe**, vice presidents, were elected senior vice presidents. **Herman Whitmore**, who has been with Gair for 34 years, has moved to the West Coast where he will work with Gair on a restricted basis.

The Gardner Board & Carton Co., Middletown, Ohio, has appointed **Wayne A. Carlson** as salesman.

John A. Summerlin has been made sales manager of the **Westfield River Paper Co., Inc.**, Russell, Mass., manufacturer of glassine and greaseproof papers used for protective food packaging.

William F. Pfeiffer, vice president of the **Hinde & Dauch Paper Co.**, Sandusky,

Ohio, and a member of its board of directors, has retired after 40 years of service with the company. He will remain on call as a financial consultant.



Mr. Lynes was formerly associated with the transparent film division of Goodyear Tire & Rubber Co.

Durethene Corp., Chicago, manufacturer of polyethylene film for converters, has appointed the following companies as its sales representatives: **Robert S. Bacon Co.**, Newton, Mass.; **Paul B. Porter**, Oahu, Hawaii; **Mair-Smith Agencies, Ltd.**, Vancouver, Canada.

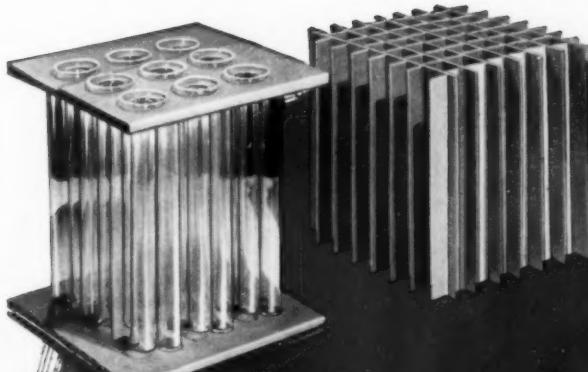
Aluminum Co. of America, Pittsburgh, Pa., has appointed **J. M. Hileman** works manager of its Richmond, Ind., works. Mr. Hileman replaces **Roy M. Wareham**, who retired in May.

Ball Bros. Co., Muncie, Ind., has appointed **Harold L. Maranda** as plant manager for glass container manufacturing in Muncie.

Dane Hahn has been elected vice president of **W. L. Stensgaard & Associates, Inc.**, Chicago. Mr. Hahn is manager of the industrial design firm's Eastern Div., with headquarters in New York.

C. F. Scott, **R. H. Brown** and **E. R. Bailey**, each with 50 years of service with **Bemis Bros. Bag Co.**, St. Louis, Mo., were honored in Chicago recently by a group of Bemis officers and executives. Mr. Scott, a member of the board, is still active in the company as counsellor. Mr. Bailey is manager of Bemis in San Francisco. Mr. Brown, special representative for Bemis, retired on March 31.

The Canning Machinery Div., Food Machinery & Chemical Corp., San Jose, Calif., has appointed the following Eastern sales representatives: **Dale Davis**, Wisconsin territory with headquarters at Fond du Lac, Wis.; **Ward Armstrong**, territory consisting of Arkansas, Louisiana, Oklahoma and the Northern portion of Texas with headquarters at Denton,



SOLUTION
OF PACKAGING
PROBLEMS

RECOGNITION
IN TRANSIT



REDUCTION
OF FREIGHT
COSTS



Corrugated

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HINDE & DAUCH

Authority on Packaging

17 FACTORIES AND MILLS • 40 SALES OFFICES

Write for booklet,
"How To Specify Corrugated
Boxes" Hinde & Dauch,
Sandusky 4, Ohio

Announcing

**CARGO PACKERS
SPECIAL PRODUCTS CO.**
National Distributor for
Thermatron[®]
PACKAGING SEALING

*A PRODUCT OF
RADIO RECEPTOR CO. INC

**—the faster, lower cost
packaging method that
makes Hard Goods**

EASIER TO SELL!

New THERMATRON SEALERS for acetates, saran, vinyls and other hard-to-heat materials opens the door to economical hard goods packaging. Now plastic wraps—spheres, envelopes and other semi-rigid packaging devices—can be sealed in your own plant, quickly, easily, economically. THERMATRON makes seals up to 12" long on .005" or heavier cellulose, acetate, vinylite; makes area seals up to 12" long and 8" wide. Seals up to the edge of the material. For complete information on this unique method of product protection... and sales enhancement... write today!

Thermatron Protective Packaging Safeguards

**DELICATE
COMPONENTS**

Vital, sensitive components, assemblies, small instruments enjoy ready acceptance when protected against dirt and dust contamination... rough handling, etc.

**NEW ILLUSTRATIVE
DESCRIPTIVE BULLETINS
AVAILABLE ON
REQUEST**



DISTRIBUTED
NATIONALLY BY

**CARGO PACKERS
SPECIAL PRODUCTS CO.**

73 RUTLEDGE STREET, BROOKLYN 11, NEW YORK

**Plants
and people**

Tex.; Harold Murphey, Alabama, Georgia, Mississippi, North Carolina, South Carolina and Tennessee with headquarters in Decatur, Ga.; C. J. Simpson, New York State, that portion of Pennsylvania which borders Lake Erie, and the New England states with headquarters in Rochester, N. Y.

The Packing Equipment Div. of Food Machinery has appointed Donald D. Dericott product manager in charge of its Modern Materials Handling Section, responsible for sales of materials-handling equipment throughout the United States.

Continental Can Co., New York, has named Thomas R. Metzger sales manager of general line, non-food-product containers for the company's Central Metal Div. Mr. Metzger, who has been with Continental since 1934, will headquartered in the Central Div. offices in Chicago.

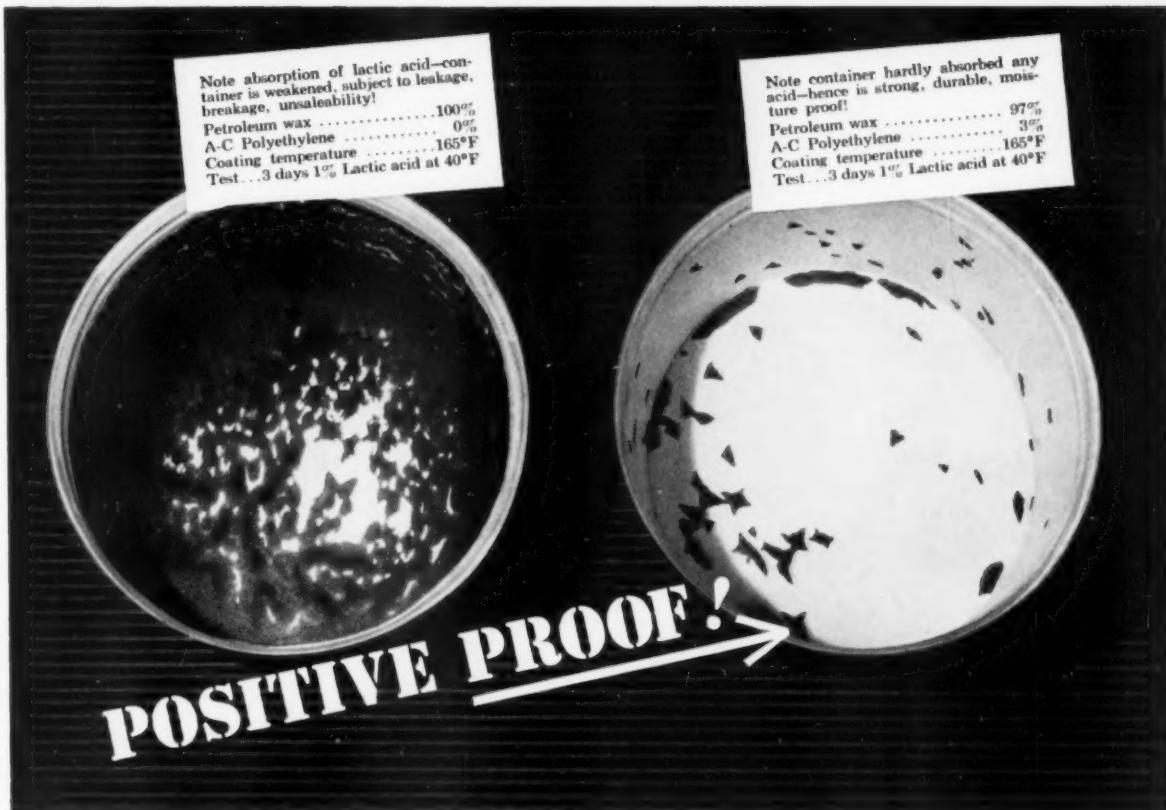
Continental has formed Mr. Metzger a new district sales office—the Chicago meat-can district—with Norbert M. Potts as sales manager. Stephen M. Murphy will succeed Mr. Potts as sales manager of the Chicago city district and will supervise sales to all industries other than meat packing.

John R. Porn has been named sales manager for Continental's Omaha metal can sales district.

Frederick S. Crysler and Balfour Phelan have been elected vice presidents of Container Corp. of America, Chicago. Mr. Crysler will be in charge of the corporation's folding carton and boxboard properties at Boston, Philadelphia, Oaks, Pa., and Greensboro, N. C. Mr. Phelan will be in charge of the company's carton and boxboard properties at Chicago, Cleveland and Wabash, Ind. He will also be responsible for the carton plant and boxboard mill of the O. B. Andrews Co., Chattanooga, Tenn.

Gaylord A. Freeman, Jr., has been elected to membership on Container Corp.'s board to fill the vacancy created by the retirement of Ira C. Keller as executive vice president and director.

Edward J. Kirstein has been made general manager and William D. Jackson assistant general manager of Container Corp.'s shipping container plant on Ogden Ave., Chicago. Also appointed at the Ogden plant were: James F. McDowell, general sales manager; Walter G. Cott, sales manager for corrugated containers;



A-C^{*} Polyethylene EFFECTIVELY REDUCES LACTIC ACID ABSORPTION

INCREASES SHELF LIFE

Both cottage cheese containers are identical except for the coating. The one on the left was treated with petroleum wax the usual way. The container on the right had 3% A-C POLYETHYLENE added to the petroleum wax. *Both were then tested with the standard methylene blue test at 40°F for 3 days.*

See how the lactic acid was absorbed into the fibers of the standard package. See how A-C POLYETHYLENE effectively reduced—almost to zero—the lactic acid absorption in the container at right!

WHAT IT DOES

Tough A-C POLYETHYLENE is a hard polymer that mixes easily with petroleum waxes. It helps strengthen cartons, reduces leakage—yet

you coat the same number of containers per pound as with standard petroleum wax alone.

A-C POLYETHYLENE in your present wax blend actually improves the appearance of your package. Printing takes on added attractiveness. Shelf life is lengthened with the increased resistance offered to damaging water vapor.

WHERE TO USE IT

Eye-appealing and loss-reducing, A-C POLYETHYLENE, in wax blends, is especially useful on milk, cream, cheese, ice-cream, and other similar containers.

Have your wax supplier make blends for you containing this material!

For complete information on A-C POLYETHYLENE, call or write today!

*Trade-mark



SEMET-SOLVAY PETROCHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

FILMOTYPE is changing the
entire concept of hand lettering
and type for packaging!



Write for a FREE
demonstration right in
your own office
or for full details to
department MP654

Filmotype slashes cost, time and work of package design, preparation and production! Produces both hand lettering and type ready for paste-up and reproduction—almost instantly! Filmotype's tremendous hand lettering library assures the right face... exactly the weight and condensity desired... for every packaging job. Yet just a flick of a finger does the work at a cost of pennies! Filmotype is important to the packaging industry—important to you!

- All-inclusive selection. Over 700 styles and sizes of both hand lettering and type!
- Convenient size Filmotype is only slightly larger than a typewriter!
- Easy to operate. Produce "ready-to-go" proofs after $\frac{1}{2}$ hour instruction.

See why package designers everywhere have adopted Filmotype as standard, necessary equipment.

FILMOTYPE



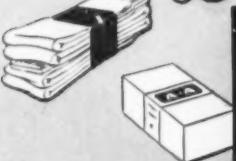
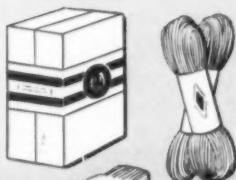
SELF STICK Bands & Wrappers

**The MODERN Instant-Sealing
Way to Package Banded Merchandise**

**NO PINS! NO MOISTENING!
NO STITCHING!**

STEP UP packaging efficiency and effectiveness with "SELF-STICK" Bands and Wrappers that seal instantly at a finger's touch. Beautiful FLEXOGRAPHIC printing in one to four colors. Band and wrapper sizes from $1\frac{1}{4}''$ x $8''$ to $30''$ x $34''$.

Write for "SELF-STICK" Sample Kit.



SELF STICK PACKAGING

Division of
PHOENIX PRODUCTS CO.

4711 N. 27TH STREET • MILWAUKEE 16, WISCONSIN

Plants and people

Ralph L. Peck, sales manager for solid fibre containers; **Herbert M. Donhowe**, plant manager; and **William A. Giese**, mill manager. **E. W. Woodhall**, formerly plant and mill manager at the Ogden plant has been transferred to the company's Fernandina, Fla., kraft containerboard mill.

E. R. Friese, director of manufacturing for **Sun Chemical Corp.**, Long Island City, N. Y., has been named vice president by the board of directors of the corporation. Mr. Friese joined Sun Chemical in one of its production departments in 1936.



Mr. Friese

Ivers-Lee Co., Newark, N. J., has elected the following officers: **James A. Short**, vice president and treasurer; **John R. O'Meara**, vice president and general sales manager; **Maclay J. Salfisberg**, vice president in charge of personnel and package control.

Arthur P. Bamford has been made chief development engineer of **George F. Motter's Sons**, York, Pa., designers and manufacturers of rotogravure presses, high-speed folders and auxiliary equipment.

Stephen W. Smith, former vice president and general plant manager of the **New Haven Board & Carton Co.**, New Haven, Conn., has retired after 23 years of service with the company. Mr. Smith is well known in the board and carton industry.

Machine O'Matic, Inc., Chicago, has appointed **Harold Fisher Associates**, Baltimore, Md., as representatives in that area.

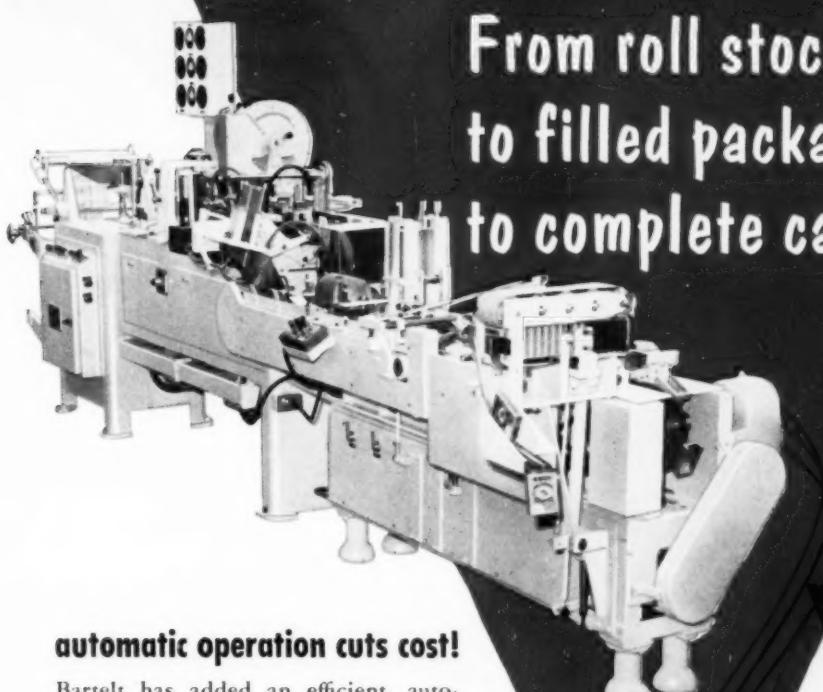


Robert F. Duemler has been made divisional vice president in charge of sales of the **Crown Can Div.**, **Crown Cork & Seal Co., Inc.**, Baltimore, Md. Mr. Duemler, who has had experience in sales management and marketing in the United States as well as in South America and Europe, will headquartered in Philadelphia.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has named **Ralph C. Krueger** southern district sales manager of the Film Dept., with headquarters in Atlanta, Ga. Previously, Mr. Krueger

ANOTHER PACKAGING TRIUMPH!

From roll stock...
to filled packages...
to complete carton!



automatic operation cuts cost!

Bartelt has added an efficient, automatic cartoner as an accessory to their popular packaging machine. Now, automatically without additional operators this machine will: (1) Form a pouch style bag from a roll of preprinted paper, film, or foil. (2) Fill the bag accurately. (3) Heat seal safely. (4) Transfer finished pouch to the cartoner. (5) Set up carton, insert the desired number of pouches, glue or tuck ends of the carton. (6) Rack package in compression track for transfer to overwrap or for caser.

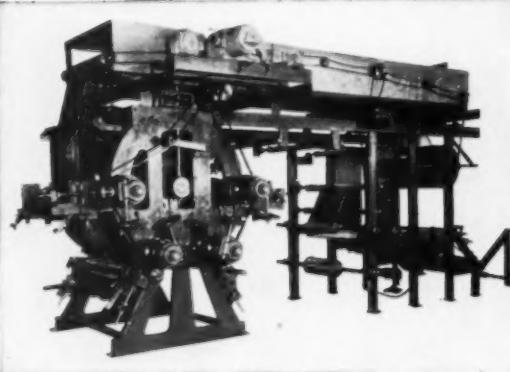
The dependability of these machines is greatly increased by a simplified design and efficient, precision manufacturing. If you can use a pouch style, heat sealed package . . . send us your packaging problems.



*"Machinery for
Creative Packaging"*

4 Star Press for 4 Color Printing

LEMBO
flexographic
PRESS



Widths: 24" to 60"

NEWS!

Ingenious supported-web construction solves register problems for plastic film printers.

Introduced only last year, the Lembo 4-color Supported-Web Press is fast becoming the favorite of critical printers. And here's why . . .

The supported-web construction permits *in-register* printing at *high speeds*, even with polyethylene and other extensible plastic films. All the strain of going through the rollers is taken up by the continuous blanket. The web is *carried*—not pulled—from impression cylinder to impression cylinder, assuring perfect printing at speeds from 0 to 500 feet per minute.

Check these 4-Star Lembo features

- ★ **REGISTER** Choice of 360° planetary gear register control or electronic register control
- ★ **EASE** Impression cylinders taken out of contact with printing rollers by electric motors
- ★ **SPEED** Optional unit dries ink between impressions for outstanding speed
- ★ **EXTRAS** Can be equipped for gravure printing, and with re-winds for cellophane or paper

An appointment to see this superior press in operation can be arranged at your convenience. Write for full particulars and quotations.

LEMBO machine works, inc.
248 East 17th St. Paterson 4, N. J.

Manufacturers of Printing Presses and Cylinders

Ask about
Lembo surface
printing machines
up to twelve
colors

Plants and people

served as sales development supervisor in Du Pont's Film Dept. working on sales development of Mylar polyester film. **Dr. John P. Wilkins** has been named to succeed Mr. Krueger as sales development supervisor and **Dr. Arthur B. Ness** has been appointed manager of the development section of the research division.

The Du Pont Kinetic Chemicals Div. has established a new sales service laboratory, to be headed by **Dr. J. S. Lann**. The new laboratory will take over some of the functions of the present Fluorine Chemicals Div. In a re-assignment of key technical personnel to serve the aerosol industry, **Dr. D. E. Kvalnes** has been named technical manager of the Kinetic Chemicals Sales Div., reporting to **Emory M. Fanning**, assistant director of sales, and **Dr. Fred S. Palmer** has been transferred to Wilmington as assistant to **Dr. E. G. Young**, sales development manager of the division.

Wabash Fibre Box Co., Terre Haute, Ind., has appointed Mark Fisk to its outside sales force. He will cover the Western Indiana-Southern Illinois area.

Andrew M. Toft, vice president of **National Can Corp.**, Chicago, has been elected to the company's board of directors.

Carlton F. Diskin and **Samuel D. Bass** have been elected vice presidents of **National Container Corp.**, manufacturer of kraft paperboard and corrugated shipping containers, New York. **Arnold Ginsberg** was elected assistant vice president.

The Celluplastic Corp., Newark, N. J., manufacturer of transparent plastic containers and capsule vials, has appointed **Bowden & Co.**, Indianapolis, Ind., as its representative in Indiana.

The Chelsea Carton Co., Chelsea, Mass., has changed its name to **Packet Products Corp.** and will transact all business under the new name.

The formation of **Custom Display Service, Inc.**, 503 W. Division St., Chicago, Ill., has been announced. The firm will serve display brokers and sales organizations engaged in the manufacturing of permanent and semi-permanent displays.

The Multiwall Bag Sales Div., **Union Bag & Paper Corp.**, New York, has transferred **Paul K. McKinney**, multiwall sales representative, from the Houston office to Kansas City. Mr. McKinney's new territory includes Eastern Kansas, Western Missouri, Northwest Arkansas and Okla-

Get all three with PLAXPAK bottle

impulse appeal

Spectrum-wide choice
of colors to spur sales at
point-of-sale.



use appeal

Ease of squeeze dispensing
to increase consumption
at point-of-use.



repeat appeal

Use convenience and
shelf-impact combine
to foster brand loyalty.



The Plaxpak bottle "fights" for your product at the point-of-sale, re-sells it at the point-of-use and so brings customers back for more. Plax has unequalled experience in plastic bottle packaging - let us help you produce another merchandising success.



PLAX CORPORATION

WEST HARTFORD, CONNECTICUT

PLAX CANADA, Ltd., Montreal & Toronto

MODERNIZE
SCREW CAPPING OPERATIONS
with the
FULLY AUTOMATIC
"TITE-CAP"

**SCREW
CAPPER**

Submit Sample
Containers
and Caps
for Prompt
Introduction to
A Gift-Edged
Investment!



- Quick Change-Overs; Easy Adjustments.
- Trouble-Free; Any Handy-Man Services It.
- Performs the Work of 2 or 3 Men.
- Increased Output, Automatic Operation. Pay for the "TITE-CAP" in about 6 months.
- New Hopper Handles Large Variety of Caps.
- Models for all Types of Capping Operations including Special Closures, Inner Seals, Lids, Plugs, Etc.

TITE-CAP MACHINE CO., INC.
56 Rose St., New York 38, N. Y.

"SCIENTIFIC"
portable
SEMI-AUTOMATIC STRAIGHT LINE
VACUUM FILLER



Whirlwind
SCREW
CAPPER

- Replaces Uncertain Hand Capping; Eliminates Fatigue and Worn-Out Fingers. ANY CAP—ANY CONTAINER—PERFECT SEALING!
- Adjustable Tension Device Controls Cap Tightness.
- Portable, Flexible, Fast, Easy to Operate.

CAN YOU AFFORD TO BE WITHOUT IT?
ACT NOW! Send Sample Caps for FREE TRIAL

SCIENTIFIC FILTER CO.
56 Rose St., New York 38, N. Y.

*Plants
and people*

homa. D. Leon Williams, formerly of the company's New York office, will be a multiwall sales representative for Texas, with headquarters in Houston.

Ottawa River Paper Co., Toledo, Ohio, has appointed Robert J. Dull to the newly created position of chief engineer. Other appointments at Ottawa are: James J. Danehy, assistant sales manager of Ottawa's Toledo division; Harris L. Behlert, sales promotion manager; Paul Koproski, sales service manager.

Paper Package Co., Indianapolis, Ind., has elected Donald B. Fobes president of the company, succeeding Raymond F. Stilz, who has retired. Martin L. Manus was elected vice president in charge of sales.

A new firm, Plastic Packaging Corp., 345 Central St., Leominster, Mass., has been formed to specialize in the production of transparent or tinted polystyrene containers for food and specialty products. Fred Weiss is president of the new company.



Mr. Kenim

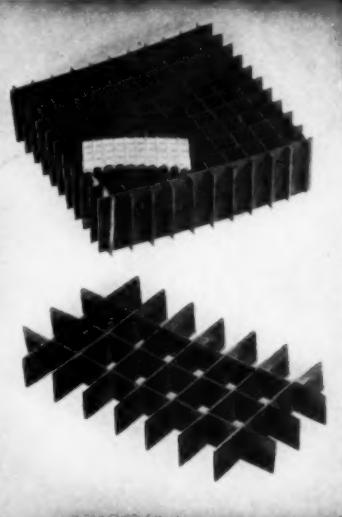
Robert E. Kenim has been named vice president in charge of overseas operations of T. C. Wheaton Co., Millville, N. J. The newly organized Overseas Operations Div. will direct the foreign sales of Wheaton products and supervise the activities of Wheaton do

Brasil, S.A. The new department will handle relations between Wheaton and its world-wide affiliates.

Upssit Products Corp., manufacturer of metal snap-on closures, has moved into its own building on Sugar Hollow Rd., Danbury, Conn.

E. H. Russell has been elected a director of The United States Printing & Lithograph Co., Cincinnati, Ohio, filling the vacancy created by the death of Gen. William Ottmann. Mr. Russell will continue as Erie Div. manager.

The Thatcher Glass Mfg. Co., Inc., Elmira, N. Y., has announced completion of a new container plant at Saugus, Calif. The new plant has an 80- to 100-ton tank, equipped with Hartford Empire I. S. machines and lehrs. Present production is devoted exclusively to amber containers. With construction of the Saugus plant (This article continued on page 184)



**PROTECT
WITH PARTITIONS!**
Solve YOUR
Internal Packaging Problems
SAFELY—SECURELY!

Made to Your
Exacting Specifications
for Pharmaceuticals
Candy
Heart Box Inserts
Collapsible Tubes
Toys and other fragile items

Plain and Die Cut

Prompt Delivery
Write or Call for Complete Data

RAPID CUTTING CO., INC.

90-96 ENGERT AVE.
BROOKLYN 22, N.Y.
EVergreen 8-2512-3-4

(Formerly at 169-173 Franklin Ave.)



MODERN PACKAGING

A master package by PACKAGE PRODUCTS



Carolina Manufacturing Company

Product:

Description:

Sales Status:

Hav-A-Hank handkerchief.

Printed in two colors on moisture proof cellophane for heat sealing.

Carded handkerchiefs—an item that sells by display alone. Colorful, persuasive packaging has helped this brand become the world's largest seller in carded handkerchiefs.

What's the score your product

racks up when it comes to selling itself?

If the answer is "less than satisfactory," then take
a lesson from Hav-A-Hank.

Package Products creates sales-stimulating multi-color designs for bags, wraps and envelopes, and prints them on all transparent films. Let us show you how superior designs and printing will give your lagging sales a shot-in-the-arm.

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Package Products Company

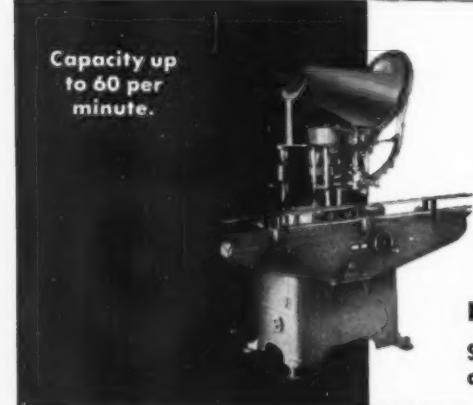
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A MODEL FOR EVERY PURPOSE ...

A SPEED FOR EVERY NEED!

Capacity up
to 60 per
minute.



RESINA

Standard, single head,
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Flexible
Fast
Fully
Automatic



RESINA

High speed, straight line
screw capper. Rated for
speeds up to 300 per
minute depending on
size of container.

Capacity 20
to 60 per
minute



RESINA

Automatic innerseal ma-
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applying standard inner-
seals to various types
and sizes of tin cans as
commonly used in the oil
industry.

Other models available.
Write for descriptive
literature.

Agents in principal cities through-
out the United States and Canada

RESINA AUTOMATIC MACHINERY CO., INC.

BROOKLYN 31, N.Y.

Plants and people

(This article continued from page 180)
for West Coast production, the company
has established Pacific Coast Div. offices
at 1350 N. Highland Ave., Los Angeles
28. John B. Miller is division sales man-
ager.

The New York office of the Rhinelander
Paper Co., Rhinelander, Wis., has moved
to new and larger quarters at 500 Fifth
Ave., New York 36.

St. Regis Paper Co., New York, has ap-
pointed Neil McClaran as a sales super-
visor in the company's Midwestern
Multiwall Sales District, with headquar-
ters in Chicago.

Formation of a new corporation known
as Western Containers, Inc., Lockport,
N. Y., has been announced. The new
company will purchase the physical prop-
erties of Western New York Container
Corp. and Lockport Paper Products, Inc.,
and will be affiliated with the Ohio Box-
board Co., Pittman, Ohio. Albert W.
Sternitt will serve as president of West-
ern Containers.

The Webhart Corp., Pasadena, Calif.,
has established an engineered packaging
service to help meet the growing require-
ments of West Coast industry. Webhart's
chief engineer is William D. Long, former
chief of the packaging branch of the
U. S. Air Force Air Materiel Command.

George H. Nelke has been appointed
sales representative for the Transparent
Package Co., Chicago, manufacturer of
cellulose and plastic casings for sausage
and other meat and food products. Mr.
Nelke will cover Kansas, Missouri, Okla-
homa and Southern Illinois.

Maj. Gen. William Ott-
mann, chairman of the
board of The United States
Printing & Lithograph Co.,
Cincinnati, Ohio, died April
20 at Mt. Sinai Hospital,
New York, after a brief ill-
ness. He was 76. General Ott-
mann spent his entire
business career in the
lithographic industry, hav-
ing been associated with U. S. Printing
& Lithograph Co. since 1897.



Maj. Gen.
Ottmann

Leonard Robert Light, director of adver-
tising of Stone Container Corp., Chicago,
died on April 21 at Michael Reese Hos-
pital, Chicago, following a brief illness.

For the Eye Catching Package

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Offer
QUALITY and
BEAUTY

If it's eye catching appeal you're looking for, Niemand Bros. quality tubular packages are your answer.

Our line of attractive packaging may be printed and styled with decorative papers, and are made with closures of metal, paper or plastic with shaker or sifter dispensers where needed.

Why not turn your next packaging problem over to us and prepare yourself for some pleasant surprises.

We'll be happy to submit suggestions.



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PAPER TUBE PRODUCTS

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For your information

The third biennial **Packaging & Materials Handling Institute** to be held June 8-9 at the University of Southern California will include the following panel topics: Analysis of Handling Problems and Selection of Materials Handling Equipment, with **James P. Kennedy** of James P. Kennedy Co. as chairman; Bulk Handling, **Frank Reed** of Southern Pacific Railway Co., chairman; Handling Raw Materials and Parts in Process, chaired by **Robert Phoenix** of McCulloch Motors Corp.; Shipping of Parts and Materials between Plants, Vendors and Customers (Manufacturing), **Clint Umphress** of North American Aviation, Inc., chairman; Distribution and Warehousing, **Harlan Nisson** of Terminal Refrigeration Co., chairman; Preventive Maintenance and Replacement of Materials Handling Equipment, **Wallace Fore** of North American Aviation, Inc., chairman.

More than 100 executives attended the recent semi-annual meeting of the **Packaging Machinery Mfrs. Institute** in Atlantic City. Institute president, **Robert Foreman**, outlined the new activities which the Institute is inaugurating in the statistical and publicity fields and through cooperative committees with other associations. The Institute's new insignia was displayed at PMMI's booth and by PMMI members at the Packaging Show. Speakers at the business session included: **W. R. Ruguemin** of Stokes & Smith; **George von Hofe** of New Jersey Machine Corp. and **Frank K. Zimmerman** of Lynch Corp. **E. J. Abendschein** of Chisholm Ryder Co. of Pa., reported on the progress made in the revised Packaging Machinery Directory, to be issued this year. **Tom Miller** of Package Machinery Co. was panel chairman. The Institute's fall meeting will be held Sept. 23-26 at Grove Park Inn, Asheville, N. C.

The 1954 edition of **"The Penrose Annual"** (Farrar, Strauss & Young, Inc., New York; \$8.50) has just been published. This review of the graphic arts, edited by **R. B. Fishenden** and published in Great Britain by **Lund Humphries & Co., Ltd.**, is striking in its presentation and broad scope of theme and illustration. Profusely illustrated, this new Vol. XLVIII covers the graphic-arts field through general and technical articles written by leaders in their respective fields.

One of the most ambitious attempts to analyze all aspects of cereal packaging is contained in a new book entitled **"Storage of Cereal Grains and Their Products,"** published by **The American Assn. of Cereal Chemists** and edited by **J. A.**

Anderson of the Board of Grain Commissioners in Manitoba and **A. W. Alcock** of Purity Flour Mills. The section entitled "Packaging and Storage of Cereal Products" was written by **Charles A. Southwick, Jr.**, technical editor of **MODERN PACKAGING**. This illustrated book, second in a series of monographs sponsored by the association, is a useful treatise combining comprehensive reviews of scientific literature in the field, with knowledge drawn from other sources.

Some 800 executives from all parts of the United States are expected to attend the **American Management Assn.** general management conference scheduled for June 21-23 at the Hotel Statler, New York. Chief problem before the conference is to determine how business can tighten its belt for the current readjustment and at the same time be ready to capitalize on expansion opportunities.

A 1953 distinguished service award for outstanding contribution in the field of packaged butter merchandising has been awarded by the **American Dairy Assn.** to the **Paraffined Carton Research Council** for its part in promoting the use of new pictorial butter cartons that tie in with ADA advertising. This marks the first time that such a dairy-supply group has been so honored.

More than 50% of the total exhibit area available for the 1954 **National Industrial Packaging and Materials Handling Exposition**, to be held at the Chicago Coliseum Sept. 28-30, has already been reserved for former exhibitors, according to **Jack L. Ware** of the American Excelsior Corp., general chairman of the exposition. Sponsored by the **Society of Industrial Packaging & Materials Handling Engineers**, the exposition is being held in conjunction with SIPMHE annual convention and annual Technical Short Course. Rounding out the meeting is the 1954 **National Protective Packaging and Materials Handling Competition** under the general chairmanship of **R. A. Mantz** of International Harvester Co., with **Wilburn Couch** of General Motors Corp. and **K. W. Kruger** of the Forest Products Laboratory as associate chairmen. The competition, restricted to users of packaging and materials-handling equipment and supplies, is divided into seven groups according to types of containers and materials-handling techniques, as follows: Corrugated or Solid Fibre Boxes, Nailed Wood Boxes and Crates, Wirebound Boxes and Crates, Cleated Panel Boxes, General, Export Packages and Materials Handling.

The Canning Machinery & Supplies Assn. is now located in a newly completed office building, the Bethesda-Chevy Chase Professional Bldg., Montgomery & Weaverly Sts., Washington 14, D. C. Mailing address, P. O. Box 5926, Washington 14, D. C., remains unchanged.

The **Babcock-Hart Award** for 1954 will be presented to **Dr. Edwin John Cameron**, director of the Washington Research Laboratories of the **National Canners Assn.**, on June 29 during the annual meeting of the **Institute of Food Technologists** at the Biltmore Hotel, Los Angeles. This award, established in 1948 to honor Stephen M. Babcock and extended

What's doing

June 6-10—**Confectionery Industry Exposition**, Conrad Hilton Hotel, Chicago.

June 7-10—**Sixth National Plastics Exposition**, Cleveland Auditorium, Cleveland, Ohio.

June 8-9—**Third Biennial Packaging and Materials Handling Institute**, University of Southern California, Los Angeles.

June 9-11—**American Society for Quality Control**, eighth annual convention, Jefferson Hotel, St. Louis, Mo.

June 12-16—**National Housewares Mfrs. Assn.**, trade show, Atlantic City.

June 13-16—**American Marketing Assn.**, spring conference, Ambassador Hotel, Atlantic City.

June 13-17—**National Retail Tea & Coffee Merchants Assn.**, Edgewater Beach, Chicago.

June 13-17—**Toilet Goods Mfrs. Assn. of Canada**, White Face Inn, Lake Placid, N. Y.

June 19-23—**National Assn. of Display Industries**, trade show, New Yorker Hotel, New York.

June 21-23—**A.M.A. Conference on General Management**, Hotel Statler, New York.

June 23—**U. S. Trade-Mark Assn.**, 76th annual meeting, Hotel Pierre, New York.

June 25-29—**National Assn. of Retail Meat & Food Dealers**, trade show, Chicago.

June 26-30—**American Drug Mfrs. Assn.**, Lake Placid, N. Y.

June 27-July 1—**Institute of Food Technologists**, technical program, Los Angeles.

THE *Aerosol Valve* FOR YOUR PRODUCT *by Precision*

• So widespread has been the public acceptance and demand for self-dispensing packages equipped with colorful Precision valves, that new type products and additional brands are added daily to the long list enjoying the plus values offered by Precision. To keep pace with this tremendous growth, Precision's production and research are continually expanding both here and abroad so that your package may have the merchandising and technical advantages of a Precision valve regardless of the product, container or filling method involved.

Why is Precision the Leader?

DESIGN . . . The wide range of Precision valves featuring positive, fingertip operation assures a successful solution to your specific spray characteristic requirements.

CONTAINER . . . Precision has a valve engineered for the aerosol container of your choice plus the widest selection of plastic colors to enhance the beauty of your package.

PRODUCTS . . . Plastic construction eliminates corrosion enabling Precision



valves to perform efficiently for all products whether foam, residual or true aerosol.

FILLING METHOD . . . All types of aerosol products with Precision valves, are being filled successfully by pressure as well as refrigeration at the lowest cost.

QUALITY . . . Precision's basic research, production skill, development techniques and 100% inspection of over 100,000,000 time-tested valves is your assurance of high quality.

ECONOMY . . . The highest plant production efficiency, as well as the lowest rejection rates for filled containers, assures maximum economy with Precision valves.

AVAILABILITY . . . The world's largest aerosol valve manufacturing facilities, are combined with the latest production methods and techniques, to give production schedules that assure prompt deliveries.

"We invite your inquiry to enable our staff of aerosol valve technicians to work cooperatively in supplying your valve requirements."



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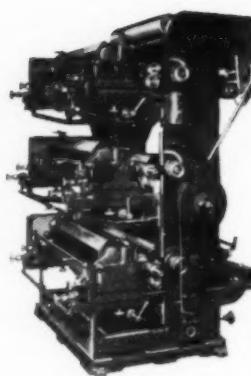
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The finest engines run at peak efficiency only with the right fuel. It's the same with flexographic printing equipment, too — for top-quality performance you have to team a precision-engineered press with precision-molded printing plates. That's why most leading makers check out their new presses with MOSSTYPES, the rubber plates you can always depend on for accuracy and uniformity.

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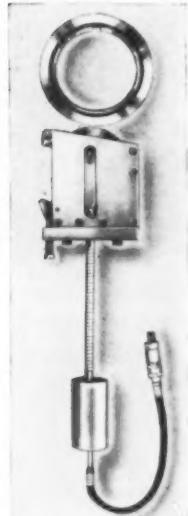


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OUR $\frac{1}{2}$ " WIDE, MODEL 654 AIR-OPERATED, SCORE-CUT SLITTING LEVER

with . . . HARDENED SIDE PLATES
AND QUICK-DISCONNECT
SELF-SEALING COUPLINGS

- Maximum knife life with minimum set-up time.
- Eliminates spring adjustments.
- Uniform cutting pressure.
- Ideal for narrow cuts.
- $\frac{1}{4}$ " cuts can be achieved by double banking of $\frac{1}{2}$ " levers.
- This lever can be run upside down or sideways.
- Interchangeable with your existing slitters or by a simple modification of your slitting machine.



On making narrow cuts investigate multiple manifolding to reduce down time to 30 seconds between changes of width . . . Slitting, scoring and perforating operations on Printing Presses, Coaters, Laminators and other Web Processing Equipment can be done with the Model 654 . . . Easily installed with remote control of slitting pressures.

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For your
information

this year to include Edwin Bret Hart, is given to a recipient who has advanced human nutrition by outstanding achievements in the fields of research or technology.

The Packaging Institute has issued a publication entitled "New Techniques for the Packaging Engineer," comprising the following three papers on the work of the packaging engineer: "Maintaining Proper Packaging Specifications," by Clemens Koehler of Koehler & Worden; "Quality Control Enters the Packaging Department," by A. F. Deuble of Johnson & Johnson; "Packaging Faces the Incentive System," by S. G. Stearns of Merck & Co. An introduction by C. M. Elliott of Eastman Kodak Co. points out that these three topics are challenges to the packaging engineer today. Copies are available at \$1.25 per copy from the Packaging Institute, 342 Madison Ave., New York 17.

Monsanto Chemical Co.'s Plastics Div., Springfield, Mass., has published a new catalog on plastic stock boxes, designed to familiarize manufacturers with the variety and types of stock boxes available. One section of the catalog is devoted to the company's Lustrex styrene plastic containers and the other to Monsanto's Vue-pak acetate boxes. Copies of the booklet may be obtained from Monsanto's Plastics Div.

The evaluation of phosphate treatments of steel shipping containers to achieve better surface for application of exterior and interior coatings and interior cleanliness of containers was considered at a recent symposium sponsored by the Steel Shipping Containers Institute, Inc. The symposium was held at the Battelle Memorial Institute in Columbus.

The Champlain Co., Inc., has published a 78-page book entitled "Rotogravure," dealing with commercial rotogravure printing, which uses the company's rotogravure press and delivery equipment to illustrate key points. The book describes all of the many operations of press equipment, press procedure, etc. Copies are available free of charge on request to the Champlain Co., Inc., 88 Llewellyn Ave., Bloomfield, N.J.

Theme of the American Marketing Assn. National Conference, scheduled for June 13-16 in Atlantic City, is "The Marketing Approach to Management Problems." More than 500 marketing and market research people from industry and educa-

PACKAGE YOUR PRODUCTS WITH



For our new Packaging Folder, write the Cleveland Container plant nearest you.



Glamour
at low
production cost.

Smooth, streamlined, light in weight yet strong . . . and available in any length and diameter desired . . .

CLEVELAND CONTAINERS
CAPTURE ATTENTION . . .
HAVE HARD HITTING SALES APPEAL.

Any product . . . whether it be a sleek new style girdle, or any one of hundreds of other products . . . can be enhanced when packaged in a Cleveland Container, with an attractive, easily applied single or multi-color wrap or label.

For added protection liners of aluminum foil, parchment, paraffin, glassine, etc., are available, depending on the product.

Our long experience enables us to offer you expert advice on any packaging problem.

Large production facilities ensure prompt deliveries from our conveniently located plants.

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- Spirally Wound Tubes and Cores for all Purposes

PLANTS AND SALES OFFICES: Cleveland, Chicago, Detroit, Memphis, Plymouth, Wisc., Ogdensburg, N. Y., Jonesburg, N. J., Los Angeles. • ABRASIVE DIVISION of Cleveland. SALES OFFICES: Grand Central Terminal Bldg., New York City; Washington Gas Light Bldg., Washington, D. C.; West Hartford, Conn.; Rochester, N. Y. Cleveland Container Canada, Ltd. PLANTS AND SALES OFFICES: Toronto and Prescott, Ont. • SALES OFFICE: Montreal.



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...ONE FINGER

...ONE TOUCH

...AND Automatically YOUR
PRODUCT IS PACKAGE-WRAPPED
AT 3 to 5 units per second!

Unbelievable savings in time, labor and materials are yours with the Campbell Wrapper. Automatic continuous feeds and deliveries combined with easy, simple operation permits one person to tend and operate several machines at one time in many cases. Then too, because no trays or stiffeners are required *unless desired*, you cut material costs from 25 to 50%. With the Campbell Wrapper packaging production soars to new heights too, for it automatically crimps, heat or glue seals your products, in any type wrap material, at average speeds of *100 to 300 units per minute!* Wraps regular or irregular shaped products — single or multiple per unit with equal ease and speed. Simplified adjustments require minimum down-time for size change-over. Whatever your product — investigate now, how you can *save* with the Campbell Wrapper.

FOR THE ARMED SERVICES
We are contributing to the nation's defense program by providing a large part of our increased production facilities for building precision armaments. Civilian orders are filled on a reasonable time basis only.

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For your information

tional institutes are expected to attend.

Results of a study made by the American Marketing Assn. at the request of the U. S. Dept. of Commerce to determine the extent of use and importance of census data for marketing purposes by American business have been published in the association's *Journal of Marketing*. Reprints are available at 50 cents a copy, and at 20 cents a copy for quantities of five or more, from the American Marketing Assn., 1525 E. 53 St., Chicago 15.

How the artist can cut reproduction costs with new art materials and techniques is explained in a new 32-page, four-color booklet published by Bourges, Inc. It describes the company's Bourges Process and illustrates its many uses from layout, black-and-white, to all types of separation copy in two, three and four colors. Free copies may be had from Bourges, Inc., Dept. B8, 80 Fifth Ave., New York 11.

Permacel Tape Corp., New Brunswick, N. J., has recently published a 174-page reference manual on self-sticking tapes. The book starts with a historical review of the company's Permacel and Texcel tape research and manufacturing facilities, describes and illustrates 10 basic uses under which most tapes can be classified. Full technical data are furnished on the principal Permacel and Texcel tapes. Distribution of this looseleaf manual, bound in a four-color hard cover, is limited to Permacel customers.

Next year's **Materials Handling Exposition**, to be held the week of May 16, 1955, at the Chicago International Amphitheatre, will have as its theme "The Concept of Obsolescence." According to **Clapp & Poliak, Inc.**, exposition managers, the 1955 show will be the first to use the entire combined area of Chicago's International Amphitheatre and the new exhibition hall now under construction.

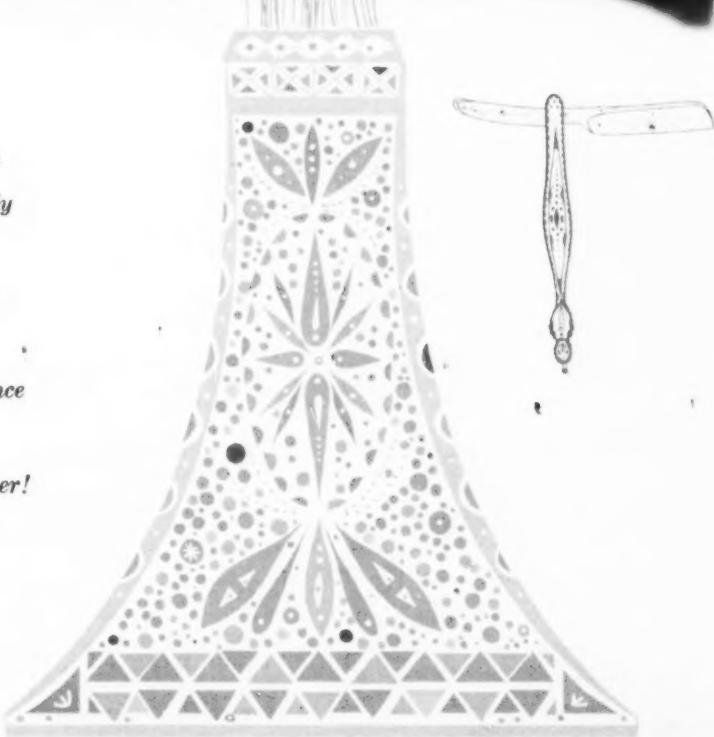
Announcement has been made of the publication of **Louis Cheskin's "Cheskin Color Charts"** and **"Cheskin Color Wheel"** (The MacMillan Co., New York; \$2.50). Mr. Cheskin, director of the Color Research Institute in Chicago, has had a major influence on color application in packaging of consumer products and in advertising with his use of the Cheskin Color System. The Cheskin Color Chart has a total of 300 different colors and a guide for using the charts and mixing the colors is included. The Cheskin Color Wheel is a tool for color planning which makes color harmony automatic.

SHEFFIELD TUBES

with McKESSON & ROBBINS' TAWN...the brush is purely ornamental



Yes, the brush is old... and purely ornamental. Popular Tawn Brushless Shave is new... and efficiently serves the comfort of modern men. Two such established firms as Sheffield Tube and McKesson & Robbins, Inc., are old hands at turning their experience into new packaging concepts that make pleasant music on the cash register! For collapsible tubes better designed to sell and protect, try Sheffield Process Tubes on your next order.



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U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey

Trimming and Wrapping Machine, W. E. Gross, F. B. Hale and I. C. Brown (to the United States of America as represented by the Secretary of War). U.S. 2,672,196, March 16. A machine for trimming and wrapping sheet material on a form, comprising a roller over which the material passes, knives on the ends of roller, cooperating rotary knives and means to draw the material over roller to rotate same.

Package, T. R. Baxter (to Continental Can Co., Inc., New York, N.Y.). U.S. 2,672,233, March 16. A non-rigid package comprising, in combination, a stack of individually folded cellulosic cleansing tissues, a relatively rigid panel member on the bottom of stack and a snug-fitting envelope of polyethylene completely enveloping said stack and panel.

Label-Applying Machine, S. B. Schwartz and J. Muller (to May Hosiery Mills, Nashville, Tenn.). U.S. 2,672,251, March 16. Apparatus for applying labels having a thermoplastic coating to articles comprising a base, a trackway mounted on base, means on trackway for slidably receiving labels in a strip, feeding means for strip, drive means for feeding means and means adjacent exit end of trackway for detaching labels from strip.

Paint Can, H. Sebell (to Reynolds Metals Co., Richmond, Va.). U.S. 2,672,256, March 16. A paint can having a can body, an annular collar element situated entirely within the can body at its upper end permanently united to upper edge of can body.

Apparatus for Filling Containers With Ice Cream and the Like, F. C. Gross and F. C. Chytal (to Package Machinery Co., East Longmeadow, Mass.). U.S. 2,672,262, March 16. A filling machine comprising a filling nozzle mounted for vertical reciprocation whereby the lower end portion of said nozzle is adapted to move into and withdraw from carton disposed under nozzle.

Thermoplastic Sealing of Bags With Vacuum Nozzles, C. S. Bower, Primos, Pa. (one-half to W. R. McLain, Philadelphia, Pa.). U.S. 2,672,268, March 16. In a heat-sealing machine, a pair of cooperating supports movable toward and away from one another; a pair of cooperating vacuum gripping jaws, one on each support and one resiliently movable with respect to its support; a vacuum nozzle interposed between the vacuum gripping jaws and cooperating heat-sealing jaws, one on each support and one resiliently positioned with respect to its support, the vacuum gripping jaws being positioned relatively in advance of the heat-sealing jaws so that with movement of the supports toward one another the vacuum gripping jaws will first engage, and further movement of the supports will automatically engage, the heat-sealing jaws with the work; heaters for the heat-sealing jaws.

Container Capping Machine, M. S. Resina, R. Resina (to Resina Automatic Machine Co., Inc., Brooklyn, N.Y.). U.S. 2,672,269, March 16. In a capping machine for use with containers and caps therefor, said machine having a relatively fixed frame, a container conveyor means and a reciprocating arm operated by a cam engageable with said arm, the improvement comprising means to align successive containers beneath said cap-closing position.

Apparatus and Method for Filling Containers With Products, W. McK. Martin (to James Dole Engineering Co., San Francisco, Calif.). U.S. 2,672,270, March 16. Apparatus for filling a product in containers having outwardly extending flanges at their open mouths and in which a line of adjacent containers is conveyed past a filler with flanges in overlapping relationship.

Apparatus for Filling Ampoules, S. E. Harris and S. E. Engel (to Hoffmann-La Roche, Inc., Nutley, N.J.). U.S. 2,672,272, March 16. A device for simultaneously filling a plurality of ampoules which comprises a pump, means for connecting said pump alternately to a source of supply of fluid and to a plurality of discharge means, a plate for carrying a plurality of ampoules and movable between an ampoule-loading position in which said ampoules are loaded onto plate and an ampoule-filling position.

Carton, T. K. Smith, Chatham, N.J. U.S. 2,672,273, March 16. A carton having, in combination, front, rear and side outer panels, each outer panel having a closure flap on its top and bottom, and at least a front inner panel, said front and both side outer panels being scored below the top thereof so as to provide, with the top closure flaps, a cover hinged on rear outer panel when pressed along the scoring.

Container Closing Machine With Centering Device, H. B. Peterson and E. DeGear (to American Can Co., New York, N.Y.). U.S. 2,672,791, March 23. In a machine for attaching end members to tubular container bodies, the combination of a vertically movable liter pad having a supporting face for receiving and supporting a container body for attachment of an end member thereto.

Combination Package, R. O. Tardiff (to Breyer Ice Cream Co., Philadelphia, Pa.). U.S. Re: 23,806 March 23. In combination, a rectangular carton having a top wall, a bottom wall, a pair of side walls and end walls, a tray snugly and telescopically disposed within said carton.

Dispensing Carton, C. A. Ross (to Behr-Manning Corp., Troy, N.Y.). U.S. 2,672,979, March 23. A package of abrading disks which may be stored upon a shelf and from which the disks may be partially drawn out beyond the shelf edge without dropping from the package for inspection or display while the package remains upon the shelf.

Container for Ampoules, E. W. Halbach (to Celluplastic Corp., a corporation of New Jersey). U.S. 2,672,980, March 23. A container for packaging ampoules of liquid medicine of the type which have a top neck portion and shoulder below neck portion which comprising a casing with a top member which is an integral part of the casing, top member having a series of holes which receive the top neck portion of ampoules and provide a seat for the shoulder below said neck portion.

Package of Stacked Receptacles, C. T. Colgren (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,672,981, March 23. A package comprising a stack of tapered nested receptacles, a wrapper of heat-sealable material wrapped around the stack, with longitudinal edges of the wrapper in overlapping relation.

Fibre Container With Duplex Closure Member, R. E. J. Nordquist (to American Can Co., New York, N.Y.). U.S. 2,673,021, March 23. A container for liquids comprising a tubular fibre body, a flange extending outwardly around an end of body, a relatively thick and substantially flat fibre end member supported on flange with its peripheral edges substantially in alignment and co-extensive with the periphery of flange and having its marginal edge portions adhesively secured to flange.

Carton, L. E. Prossen (to Celanese Corp. of America, New York, N.Y.). U.S. 2,673,022, March 23. A carton for storing and shipping bulk material comprising a rectangular base and four vertical outer walls attached to said base with a pair of centrally disposed intersecting vertical dividing walls dividing the carton into four rectangular compartments of equal size.

Method and Apparatus for Making Bags, L. R. Hecker and M. P. Clark (to Continental Can Co., Inc., New York, N.Y.). U.S. 2,673,495, March 30. A method of forming flattened tubular bag blanks comprising: advancing a continuous web of sheet material; applying to one side of said web a series of bodies of adhesive in fluid or tacky condition, said bodies extending substantially the full width of the web; applying vacuum to opposite side of web in predetermined planes to guide said web into flattened tubular condition with fluid or tacky adhesive bodies inside the tube; severing consecutive bag blanks from said tube.

Method of Forming Truncated Conical Paper Cups, W. E. Ambert and S. W. Ambert (to Lily-Tulip Cup Corp., a corporation of Delaware). U.S. 2,673,496, March 30. The method of forming a spoon-serviceable bottom in a conical paper cup of

Now-Diamond Back Snake Tape

for ALL DIRECTIONAL STRENGTH!

Cuts Costs...Speeds Packaging



Center-seam sealing
with Snake Tape is
• 30% stronger!
• $\frac{2}{3}$ faster!

Now Snake Tape is DIAMOND reinforced with tough rayon yarns for greater strength in *all* directions. It cuts sealing costs and speeds packaging wherever a strong closure is required.

For example, center-seam sealing with Diamond-Back Snake Tape (photo) makes a *stronger* closure in $\frac{1}{3}$ the time! It's the fastest, sure way to seal cartons stronger. And you eliminate all damage claims due to tape failure.

Accepted by industry! More and more shippers are using center seam sealing with Snake Tape to get packages there for less cost — this may be an idea for you. Send now for test sample.



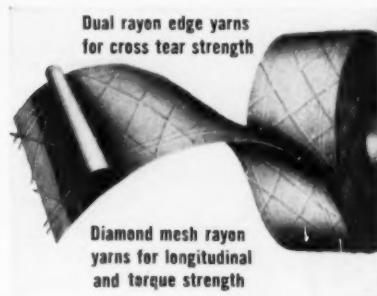
JUNE 1954



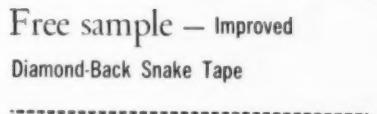
Rolls like this require tape with strength PLUS FLEXIBILITY! That's what you get in Angier's improved Diamond-Back Snake Tape. Send for sample.



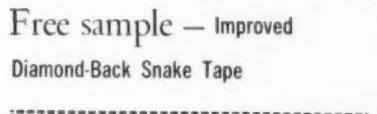
Heavy telescopic cartons stay closed when they're sealed with Diamond-Back Snake Tape. That's because Angier's improved Snake Tape has great resistance to *down* tear as well as *cross* tear. It's waterproof and comes in five widths.



Diamond mesh rayon
yarns for longitudinal
and torque strength



Dual rayon edge yarns
for cross tear strength



Diamond mesh rayon
yarns for longitudinal
and torque strength

Free sample — Improved
Diamond-Back Snake Tape

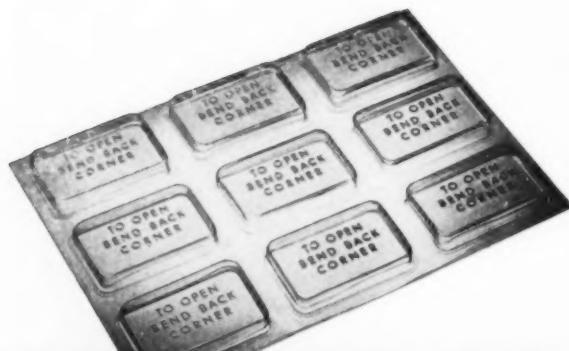
Angier Corporation, Framingham 11, Mass.

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Please send free test sample of Angier's
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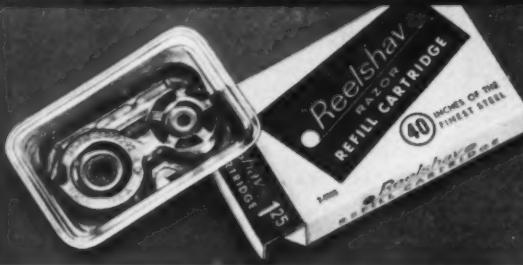
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U. S. patents digest

less than 60-deg. angle, comprising inverting an appreciable portion of the acute-angled conical paper side wall at the apical end of the conical paper cup into an internally located extension.

Striker Mechanism for Bag-Making Machines, A. J. Evers (to International Paper Co., New York, N.Y.). U.S. 2,673,610, March 30. In a bag-making machine wherein is provided a tube section including tube-forming plates terminating at a cut-off station, draw rolls for pulling the formed tube along the forming plates and pinch rolls positioned beyond the cut-off station for momentarily causing slack to appear in the bag tube each time an individual bag length is severed therefrom.

Container, M. M. Barton (to Injection Molding Co., Kansas City, Mo.). U.S. 2,673,661, March 30. A container including a body member adapted to contain a liquid to be dispensed and having a resilient wall portion defining an open top and capable of being flexed inwardly to eject said liquid, a rigid stopper closing said open top.

Shirt Package and Blank for Forming Same, N. H. Richman (to Scientific Packages, Inc., Denver, Col.). U.S. 2,673,667, March 30. A blank for formation of a protective package for a collar-attached, laundered shirt, including a sheet of cardboard-like material divided by transverse, parallel fold lines into a substantially rectangular shirt-mounting board, a collar-backing segment and a collar overlying panel, a tab cut from the central portion of said panel.

Machine for Applying Sealing Bands to Bottles, W. B. Eddison (to Gisholt Machine Co., Madison, Wis.). U.S. 2,673,674, March 30. In a machine for applying seals of the tubular shrink-fit regenerated-cellulose type to bottle tops and the like, a seal-supporting member having a non-slip surface providing an opening station for a seal, a seal-opening finger having a non-slip working surface, means to support said member and said finger with the working surface of said finger disposed near the center of the non-slip surface.

Fully Partitioned Carrier With Reinforced Handle, W. A. Ringler (to The Gardner Board & Carton Co., Middletown, Ohio). U.S. 2,673,677, March 30. A fully partitioned paperboard bottle carrier formed from a one-piece blank cut and scored to provide a side wall, a bottom wall and a side wall in articulation in the order named, partial end-wall panels articulated to the ends of side walls, full-length longitudinal partition elements articulated to the partial end-wall panels at one end of carrier.

Packing Case, W. B. Morton (to Wilbro Corp., New York, N.Y.). U.S. 2,673,678, March 30. A carton having corners at its connected walls, said corners and portions of the adjacent wall sections being rigid angular cross-section and score lines adjacent the edges of said rigid angular sections to permit carton wall to bend with respect to the angular portion when carton is collapsed.

Collapsible Box, L. E. LaBombard, Nashua, N.H. U.S. 2,673,679, March 30. A set-up box formed from sheet material comprising at least two outer side walls and two outer end walls, said parts being fastened to each other with hinge joints.

Blade Magazine, V. R. Bailey (to The Gillette Co., a corporation of Delaware). U.S. 2,674,368, April 6. A razor-blade magazine comprising a hollow rectangular case, a slide movably mounted on one side of case, with longitudinally spaced stationary studs within case and having overhanging blade-engaging portions.

Container, E. F. Schweich (to Lewin-Mathes Co., St. Louis, Mo.). U.S. 2,674,372, April 6. A carton blank adapted to be folded up to form a folding carton for flat torus-like objects, such as copper tubing and the like, which carton blank comprises an octagonal main section having a centrally located rectangular aperture bounded by four inwardly extending, upwardly bendable flaps.

Shipping Carton, C. A. Ross (to Behr-Manning Corp., Troy, N.Y.). U.S. 2,674,400, April 6. An octagonal carton comprising side walls of substantially equal size, each having end flaps hinged thereto at both top and bottom, said flaps being turned in forming a two-layer reinforced end for the carton, the combined length of an opposed pair of flaps being equal to the distance between opposed side walls of carton.

Machine for Preparing Paper Container Blanks, B. A. Wittkuhn, H. G. D. Nutting and G. F. Hill (to National Paper Bottle Co., Inc., New York, N.Y.). U.S. 2,674,929, April 13. An improved machine for preparing and feeding paired container-

forming blanks to a container-body winding machine, having in combination, two adjacently arranged, synchronously operated machine divisions, each having mechanism for intermittently advancing successive sections of a related stock sheet to a cutting station.

Bottom Structure for Reinforced Carrier Receptacles, W. G. Anderson, Jr. (to American Box Board Co., Grand Rapids, Mich.), U.S. 2,675,156, April 13. In a receptacle having vertical sides and ends, and a transverse horizontal metal member at and below the lower edge of each end secured to said receptacle, the improvement comprising a detachable and replaceable bottom.

Retractable-Handle Bottle Carrier, W. E. Turner and T. W. Foster (one-half to Container Corp. of America and one-half to O. P. Andrews Co., Chattanooga, Tenn.). U.S. 2,675,157, April 13. In a bottle carrier, a one-piece paperboard container comprising side walls, an interior wall midway between side walls formed in two sections, each formed of two panels folded together along their upper edges, end walls connecting outer ends of panels to ends of side walls.

Reinforced Partitioned Carrier, W. A. Ringler (to The Gardner Board & Carton Co., Middletown, Ohio). U.S. 2,675,158, April 13. A paperboard bottle carrier comprising a bottom, side and end walls, a central horizontal partition structure lying between the side walls and extending parallel thereto.

Knock-Down Covered Carton, K. T. Buttery (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,675,160, April 13. A carton formed of an integral blank cut, and scored to provide a bottom and front, rear and end walls hingedly connected to the bottom and corner flaps hingedly connected to the front and rear walls to be positioned on the inner sides of the end walls when carton is erected with a cover hingedly connected to upper edge of rear wall and a closure flap hingedly connected to swinging edge of cover.

Collapsible Carton. K. T. Butterly (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,675,161, April 13. A collapsible carton formed of a cut and scored blank and comprising a bottom, side and end walls hingedly connected to the bottom, article-holder members hingedly connected to outer edges of end walls and of a width exceeding that of the end walls with integral corner flaps hingedly connected to ends of end walls and holder members.

Covered Carton or Container. K. T. Butterly (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,675,163, April 13. A container comprising a bottom and front, rear and end walls hingedly connected thereto, a cover hingedly connected to the top edge of the rear wall and having a closure flap on its swing edge.

Knock-Down Covered Carton, R. G. Haas (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,675,164, April 13. A carton formed of an integral blank and comprising front, rear and end walls hingedly connected to the bottom and a cover hingedly connected to the upper edge of the rear wall, cover having a closure flap on its swinging edge.

Alternative Opening Carton, A. I. Roshkind, P. A. Stephenson, E. J. Rau and T. W. Foster (to Container Corp. of America, Chicago, Ill.). U.S. 2,675,165, April 13. A carton for packaging, storing and intermittent opening and closing to dispense a plurality of sheets of material such as stencil sheeting, comprising a single piece of paperboard, cut, scored and folded and secured to provide a paralleloped self-sustaining container.

Paperboard Container, J. W. Main (Container Corp. of America, Chicago, Ill.). U.S. 2,675,166, April 13. An open-top paperboard container substantially rectangular in plan and comprising side walls, end walls having pedestals extending above side walls and providing top end seating surfaces for the end portions of the bottom of a similar superjacent container.

Combined Cover and Handle Structure for Paperboard Boxes, J. D. Clark (to The Hinde & Dauch Paper Co., Sandusky, Ohio). U.S. 2,675,168, April 13. A combined cover and handle for paperboard boxes having upright front, rear and end walls, comprising a lid hinged to the top edge of the rear wall and having a longitudinally extending centrally disposed slot, and a lock hinged to the top edge of front wall.

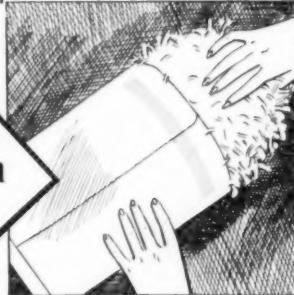
Cigarette Package and Method of Making Same, B. J. Tamarin (to Pull-Packaging, Inc., a corporation of Pennsylvania). U.S. 2,675,169, April 13. In the art of packaging, the steps which include forming a pouch with an open mouth and slits extending inward from the edge of mouth, inserting rod-like articles in mouth, bonding a pull strip to a section of the outer surface only of pouch between slits and turning section of pouch and strip to form an end closure.



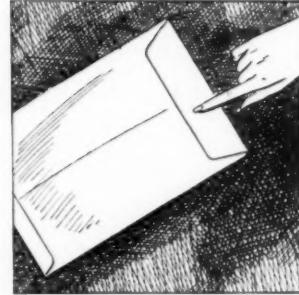
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EQUIPMENT • SUPPLIES • SERVICES

LETTERING MACHINE. Bulletin describes a new machine which rapidly reproduces a wide range of hand lettering and type matter, either positive or reverse, at low cost. Filmotype Corp. (F-451)

STYRENE CONTAINERS. Booklet gives specifications, sizes, descriptions, and prices of 39 different plastic containers, both capped and uncapped. Plastic Container Corp. (F-452)

ELECTRONIC SEALING UNIT. Data on "Thermatron" generators and presses for sealing a wide range of flexible and rigid plastic materials in all thicknesses. Radio Receptor Co., Inc. (F-453)

FASTENING DEVICES FOR POLYETHYLENE AND VINYL CONTAINERS. Folder describes uses and applications of a plastic bag fastener that effects a watertight, airtight, leakproof seal that is easily opened. Flexigrip, Inc. (F-454)

FLEXIBLE GLUE. Folder gives information and applications of "Pliax," a flexible glue used to combine cloth to leather, leather to leather, leather to paper and similar materials. "Pliax" may be used as an oil resistant coating over chipboard, cloth or leather. Swift & Company (F-455)

CORRECTION AND VARIABLE SPEED TRANSMISSIONS. Folder describes ratings, capacities, and specifications of variable speed and correction transmissions for use on imprinting, bag, label-punching, embossing, and other machines. Machine O'Matic, Inc. (F-456)

"DRUMPAK" CARTONS. Handy folder explains how knockdown-construction "Drumpak" cartons are tailored to the requirements of products needing protective cartoning. Gaylord Container Corp. (F-457)

INFORMATIVE LABELING. Booklet tells manufacturers and retailers how informative labeling aids sales promotion, helps purchasers, overcomes price competition, and ties in with product advertising. Denison Manufacturing Co. (F-458)

STAPLING MACHINES. Brochure describes the operation and specifications of the International "Staple Knight" stapling machines which close corrugated or fiber cartons. Diagrams explain the operation of retractable anvil stapling head. International Staple & Machine Co. (F-459)

PACKAGING DESIGNING. Brochure enumerates steps taken in the preparation of a new package design. Lists many nationally known manufacturers utilizing the services of Norbert Jay. (F-460)

GREASEPROOF WRAPPING. Bulletin on "Induwrap," a Grade A greaseproof barrier that meets the requirements of Amendments 1 and 2 of JAN-B-121. Angier Corp. (F-461)

CONTROLLED HUMIDIFICATION. Booklet contains descriptions and physical data on industrial and commercial humidifiers. Lists their features and their advantages for increased productivity. Walton Laboratories, Inc. (F-462)

"CELLUSUEDE" FLOCK. Bulletin includes a description of decorative "Cellusuede" flock fiber and its uses, plus data on adhesive selection and methods of application. Also contains schematic drawings and reference chart of physical properties. Cellusuede Products, Inc. (F-463)

TAPING TECHNIQUES. Manual tells how to apply gummed sealing tape properly, what makes gummed sealing tape stick, mailing regulations, how to store sealing tape, and answers some unusual questions on this tape. The Gummed Industries Association, Inc. (F-464)

PLASTIC FILMS FOR PACKAGING. Informational brochure contains characteristics and application data on polyvinyl alcohol, polyvinyl chloride, polyethylene, and polyvinyl alcohol-polyethylene laminated films. Describes uses in packaging foods and other products. Reynolds Metals Co. (F-465)

SHIPPING CASE SEALER. Folder explains the operation and advantages of a unique new case sealer which preheats the flaps of standard shipping cases before applying glue and holds the flaps in position until the glue sets. Chisholm-Ryder Co., Inc. (F-466)

SHAFTLESS PAPER ROLL UNWINDER. Folder illustrates and describes a new one-man operated surface unwinder, for handling rolls up to 42" in diameter and 84" wide that weigh as much as two tons. John Dusenberry Co., Inc. (F-467)

MULTI-WALL SHIPPING SACK. Description of "Kraft-lok" valve-type gusseted bags, for packaging free-flowing granular or pulverized materials, in which an integral sleeve replaces standard inserts and sleeves, for cleaner filling and tighter closures. Kraft Bag Corp. (F-468)

"POLY-SEAL" PLASTIC CLOSURES. Folder gives interesting information and descriptions of various types of "Poly-Seal" closures, which feature sure-sealing polyethylene liners. The Poly-Seal Corp. (F-469)

CORRUGATED WRAPPERS. Folder shows five types of white single-face corrugated wrappers for use in protecting cosmetic, pharmaceutical, ceramic and industrial products. The Hankins Container Co. (F-470)

AUTOMATIC CARTON BLANK STRIPPER. Details on the operation of a device for use with the Miehle Cutter and Creaser which automatically strips front, side and tail trim, and internal scrap from die cut carton blanks. Miehle Printing Press & Mfg. Co. (F-471)

PRINTING AND BAG MAKING MACHINES. Folder outlines printing and converting machines such as the "H.H.H. Jet," a multi-color flexographic press, the "Matador" for producing flat and square paper bags at high speeds, and four multi-wall bag machines. H. H. Heinrich Co. (F-472)

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CONVEYORS FOR PACKAGE HANDLING. Series of twenty field reports tells how installation of Speedways Conveyors have cut handling time and operating costs for diversified customers. Speedways Conveyors, Inc. (F-473)

HEAVY DUTY PLASTIC BAGS. Sample of a heavy duty polyethylene bag for apples, citrus fruits, potatoes and other produce, plus a quick-closing, quick-opening metal seal. Durethene Corp. (F-474)

FILLING MACHINES. Folder describes the application of the "Universal" Filler on 150 different kinds of materials including drugs, cosmetics, foods, powders, pastes and free-flowing materials. Stokes and Smith Co. (F-475)

PLASTIC TAPES. Bulletin lists specifications and applications of plastic tapes. Uses include color coding and decorating, masking and protection, bottle sealing and electro-plating. Minnesota Mining & Mfg. Co. (F-476)

CELLULOSE GUM FOR PAPERBOARD. Technical bulletin describes the use of cellulose gum for gloss ink printing. This cellulose gum is a water soluble cellulosic, possessing good binding properties for paper fibers. Hercules Powder Co. (F-477)

SHIPPING CONTAINER CHECK LIST. Handy folder lists the requirements a manufacturer should seek when ordering shipping containers. Gives necessary check list to insure proper packaging for the product. Stone Container Corp. (F-478)

FILM AND FOIL CONVERTERS. Booklet on the applications of transparent films and aluminum foils in multicolor printing, bag fabricating, laminating and slitting. Shows the versatility of this company for both peacetime and wartime production. Do beckmum Co. (F-479)

RADIANT HEAT PANELS. Data on "Chromalox" far-infra red radiant heat panels for speeding the drying of inks, glue, paper varnishes, and silk-screening. Edwin L. Wiegand Co. (F-480)

FLEXOGRAPHIC PRINTING. Latest issue of the IPI "Anigram" shows how to use daylight fluorescent inks. Also gives data and helpful hints on the production of gift-wrapping by flexographic printing. Interchemical Corp. (F-481)

FOLDING MACHINE. Brochure illustrates and describes the operation of a machine which folds sheets into either parallel or right angle sections, featuring a continuous feeder that handles all varieties of stock suitable for folding. Dexter Folder Co. (F-482)

COLOR SPECIALTY PRESSES. Folder illustrates and describes various presses for the complete manufacture of such products as bags, labels, gift wraps, box wraps, envelopes and folders. American Type Founders. (F-483)

CORRUGATED AND SOLID FIBREBOARD BOXES. Booklet traces the manufacture of corrugated and solid fibreboard boxes and products through all steps from the tree to the finished product. National Container Corp. (F-484)

HEAT SEALER. Information on "Sentinel" Heat Sealers, designed for the positive sealing of all coated or laminated barrier materials by the application of heat and pressure for controlled periods of time. Packaging Industries. (F-485)

LABELING WITHOUT GLUE. Brochure covers the operation of the "Label-Dri," a new machine that applies thermoplastic labels to glass containers of all sizes and shapes at high speeds. New Jersey Machine Corp. (F-486)

PAPER BAGS FOR INDUSTRIAL SHIPPING. Booklet gives details on five basic types of multiwall industrial bags. These include Cushion Stitch Open Mouth, Sewn Valve, Pasted Open Mouth, Pasted Valve, and Automatic bag types. International Paper Co. (F-487)

VENTILATED FILM. Details on the advantages of using "Respiro-Pak" ventilated film for pre-packing of produce. Cello-Masters, Inc. (F-488)

FIBROUS GLASS CUSHIONING MATERIAL. Details on the use and performance characteristics of "Vibraglass" cushioning material which is available in sheets, pads, molded pads, and cushion cases for protecting equipment from shock and vibration. Glass Fibers, Inc. (F-489)

CAPS FOR GLASS-PACKED FOODS. Series of bulletins on the value of using vacuum seal pry-off caps on foods packed in glass containers to eliminate oxidation. White Cap Co. (F-490)

PROTECTIVE CUSHIONING MATERIAL. Folder describes the different types of "Celluliner" cushions, their specifications and special attributes. Also lists cost-reducing advantages of this product. The Gilman Brothers Co. (F-491)

PRINTING TAPE FOR INDUSTRIAL USES. Folder illustrates varied uses of industrial tapes, such as parts marking, product identification, textile coding, package sealing and point-of-purchase advertising. York Tape Printers, Inc. (F-492)

PACKAGING DESIGNS. Booklet on the facilities and creative abilities of this firm of display and package designers. Describes their methods of making point-of-sale promotion most effective. Merit Displays Co. (F-493)

OPENER-FILLER FOR POLYETHYLENE BAGS. Data on an air operated unit which overcomes static electricity problems in the filling of soft goods and odd shaped items into bags made of polyethylene, cellophane and other films. Errich International Corp. (F-494)

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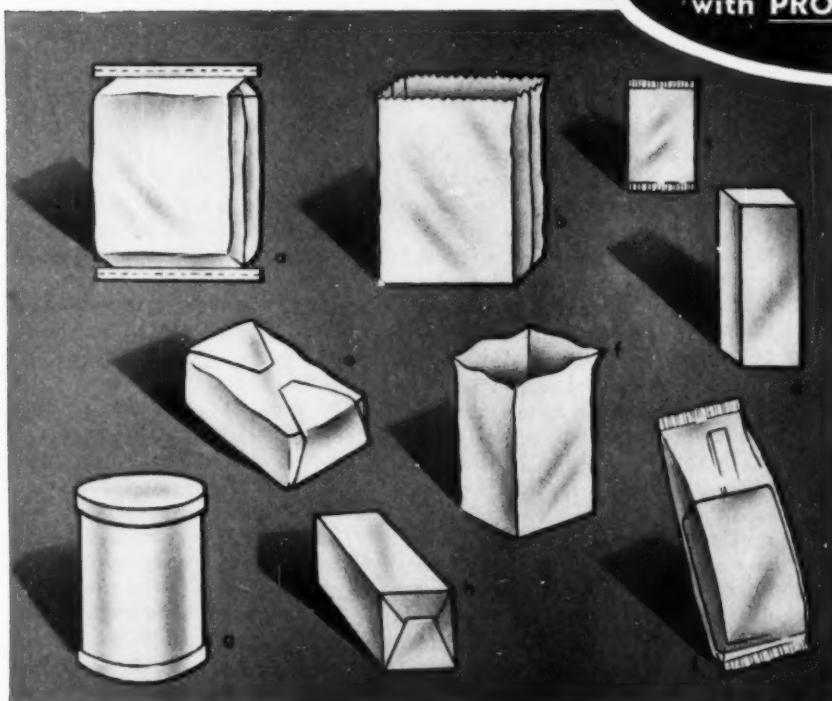
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The carry-carton spreads out

(This article continued from page 98) of their markets to warrant this special production technique.

Mother may not wish to buy six jars or cans of chopped spinach at once. If spinach is combined with carrots and beets, there may be too many mothers whose babies do not like carrots and who would not buy any multiple-unit carton containing carrots.

A similar problem confronts the soup packers. Among the most popular soups are tomato and mushroom, because they are used so widely not only as soups, but as cooking aids. However, it is questionable whether shoppers would pick up carriers containing six cans of tomato soup. If three cans of mushroom were packaged with three cans of tomato, there might be too many shoppers passing up the multiple pack because they wouldn't want mushroom or vice versa. Six different varieties of soups in a carrier might not offer a sufficient quantity of each to serve the same kind at one meal to each member of the family, and setting up a mechanical system for collating that many kinds in a carrier might slow up packaging time so much as to make the carrier uneconomic from a production standpoint.

These are only a few of the problems that food packers are having to work out in connection with the trend to carrier packaging, but both store managers and packers are confident that these obstacles will be overcome with proper research as the trend to multiple packaging gains momentum and competition forces the issue.

For specialties, there are many opportunities to use the carrier as a convenient and profitable merchandising device. For example, Strohmeyer & Arpe's three-carrier unit for Martini olives, orange-flavored Manhattan cherries and Gibson onions is apparently meeting with considerable success.

A West Coast firm has been featuring together in a carrier a bottle of olive oil and a bottle of wine vinegar—the makings for a French dressing. The Flavoripe Co. has been using a carrier containing four different flavors of ice-cream toppings. In the South one firm has the makings of a chili con carne dinner in a carrier.

Such multiple-unit packages can often be assembled and packed by hand and thus do not involve the costly

economic problem of mechanical equipment.

Wood's Bros. Coffee Co., Roanoke, Va., uses a corrugated carrier containing two 1-lb., vacuum-packed tins of coffee, thereby boosting the unit of sale and preserving the freshness advantage of the one sealed package while the other is being consumed. This is a smart move for a company which formerly sold coffee in 3-lb., vacuum-packed jars, which had the disadvantage of exposing all 3 lbs. once the jar was opened.

An interesting use of a six-can handy pack outside the consumer field has been developed by the Aerosols & Refrigerants (Easton Chemicals) Div. of American Potash & Chemical Corp. The carrier is used for the firm's "Charg-a-Can" disposable refrigerant containers, used only by refrigeration service men. It not only facilitates storing of the product, but provides a convenient and easy-to-handle unit for the service man. Similar in construction to the beverage carrier, it illustrates once again how some of the best ideas in packaging come from totally unrelated products.

The whole future of multiple-unit packaging and the use of carry-home cartons was well summed up, off the record, by one large prospective user.

"Carrier packaging? We're all for it," he said. "We haven't used a factory-pack carrier simply because we haven't needed to incur the expense up to now to move all the products we can make. But if competition forces us to use carry-home cartons—and I'm fairly certain that it will—we'll be there with the best carton and handling system we can find."

Acknowledgments

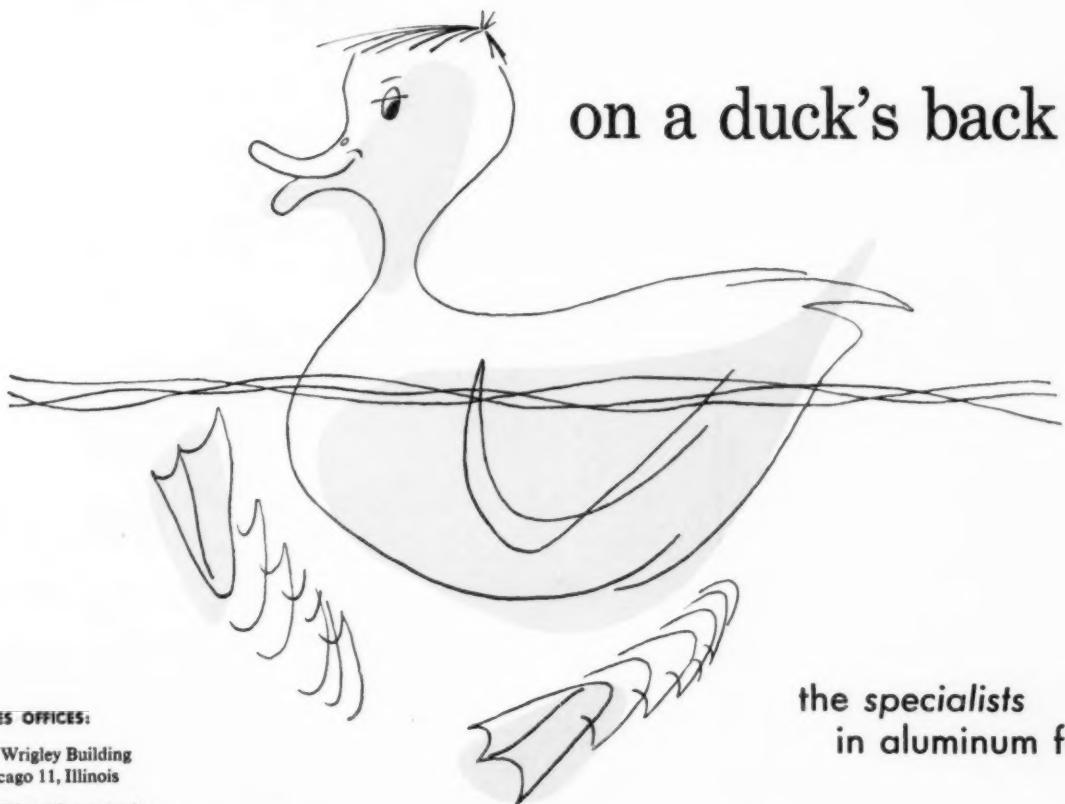
For special assistance in the preparation of this article—Atlanta Paper Co. (cartons and machinery), P.O. Box 4417, Atlanta, Ga.; The Dacam Corp. (licensor of cartons and machinery), Charlotte, N. C.; Container Corp. of America (cartons and machinery), 38 S. Dearborn St., Chicago, Ill.; The New Haven Board & Carton Co. (cartons), 259 East St., New Haven, Conn.; Standard-Knapp Div. of Embart Mfg. Co. (machinery), 127 Main St., Portland, Conn.; R. A. Jones & Co., Inc. (machinery), P.O. Box 2055, Cincinnati 1, Ohio; Alford Cartons (cartons and machinery), Industrial Ave., Ridgefield, N. J.

Nature waterproofed the duck and made him
sea-worthy by means of an ingenious valve that supplies
a constant protective coating of oil . . .
another example of precision packaging for a purpose.

For your own purposeful, individualized packaging
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your field, whatever your problems, Cochran Foil
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on a duck's back



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WHERE COSTS ARE HIGHEST---

STANDARD-KNAPP SAVES YOU MOST

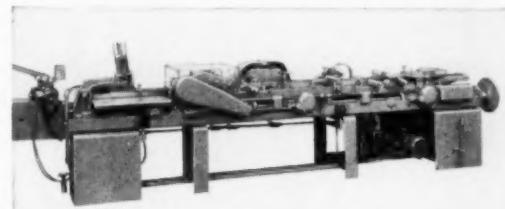
First, we don't waste your time in getting down to essentials. Our engineers talk your language, quickly understand your requirements and accurately interpret them in terms of package handling equipment.

The next point of savings is in the price of the equipment itself. We have a broad and versatile line of standard models and long experience in adapting them to specific requirements. You get a "customized" installation at the lowest possible cost.

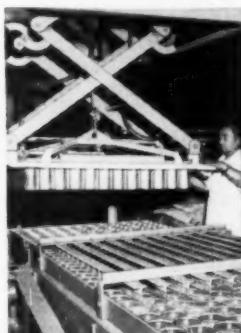
Next, we save you time in realizing the benefits from Standard-Knapp equipment. We train your operators, get them to know and like the machines, provide them with easy-to-read operating instructions.

Then, you can count on a strategically located service organization for prompt and competent assistance in keeping Standard-Knapp equipment at full efficiency.

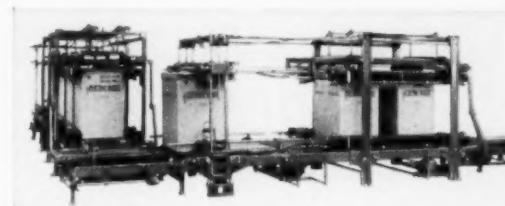
To save most where it counts the most, call in Standard-Knapp — whether you need a complete line of packaging equipment or a single machine.



CARTONING AT HIGH SPEED in huge volume on Standard-Knapp 180 Carton Inserter helps hold profit margin on new merchandising package for photographic film.



**EMPTY CAN
PALLETIZING
SYSTEM** devised by Standard-Knapp speeds and simplifies delivery of empty cans to user, expedites introduction of cans into filling and processing lines. Another example of Standard-Knapp pioneering in better packaging methods.



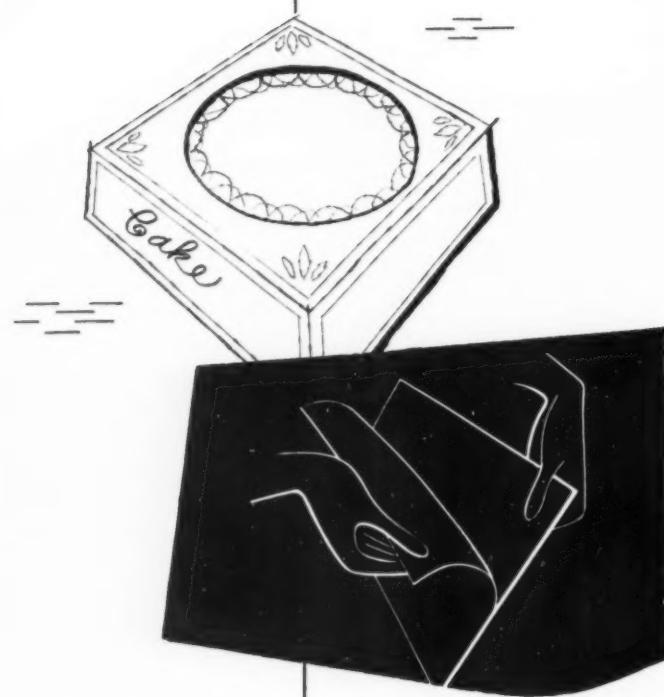
50% SAVING in packaging costs of electric ranges has been realized through development of giant automatic Standard-Knapp gluing and sealing machine for mammoth corrugated cartons.

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To Make Boxes

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Laminate with **RHINELANDER** Protective Paper

Increasing demand for boxes that can withstand penetration of fats, oils, or shortening content products poses a problem that can be easily and economically overcome by Rhinelander Glassine and Greaseproof papers. Laminating with these functional papers will provide full protection against staining—while the density of these sheets will safeguard the product against contaminating odors or flavors. And it will handle well on your laminating equipment. Complete information and samples are available. Please state your application.

Protective Papers . . . Consistently Good
... for Economical Packaging



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Western Show plans

All exhibit space for the 5th Western Packaging & Materials Handling Exposition, to be held in San Francisco Aug. 17-19, has already been sold out and the exposition managers, Clapp & Poliak, are designing corridor areas for additional exhibits. None of the previous shows has been sold out at a date so far in advance of the exposition.

In conjunction with the exposition, a seminar will be conducted by a group of leaders of the packaging industry. This will be in the nature of informal discussions probing into all aspects of packaging as they affect the convenient containing of materials and products in serving tomorrow's scheme of living. A panel of men who will be in San Francisco for the exposition period will carry on the exploratory conversations.

An innovation this year is the inauguration of high-level seminars for materials handling and packaging, to be held concurrently with the exposition. The seminars will be moderated by Prof. Samuel Rubin, head of Transportation at the University of Southern California. A small group of men who have achieved reputations in the various phases of the materials-handling industry and who have the authority to determine policy in their firms will meet in closed sessions, with the object of exploring beyond the present routine methods and philosophies employed in this field. Subjects to be discussed will include materials-handling equipment policies and practices in a highly competitive economy, how to improve the utilization and productivity of materials-handling engineers, the establishment of self-regulation codes to forestall anticipated Government regulatory controls problems associated with the mechanization and automation trends and human relations, procurement and financing problems and policies, increased profit resulting from materials-handling operations, equipment standardization trends and industry standards, and the materials-handling engineer.

It is expected that both of these projects will produce general reports of progress following the meetings. The seminars are scheduled for Wednesday, Aug. 18, and will be held at the San Francisco Civic auditorium, the building which will house the exposition.



Attractive Gaylord Boxes Belong in Your Merchandising Plans

All successful sales promotions have one big feature in common: *No selling opportunity is ever overlooked!*

Consider bright-printed Gaylord Boxes as a *selling opportunity . . .* as a functional part of your merchandising plans. Carrying your brand

name and sales message in effective billboard style, these boxes sell *well* all along your channels of distribution.

Learn how *you* can put Gaylord quality salesmanship and protection to work. Call your nearby Gaylord sales office.

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COAST-TO-COAST

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

Seals

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CAMEO*

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Package design is issue in suit

Package design is the basis of a suit filed in United States District Court at Newark, N.J., by Shulton, Inc., against the Alfred D. McKelvy Co., charging trademark infringement and unfair competition by McKelvy



Packages in dispute.



in the marketing of its "Spiced Shave Lotion," a new product introduced last fall.

Shulton, the producer of "Old

Spice After Shave Lotion,"* challenges McKelvy's use of the word "Spiced" in the product name; the use of what it calls a nautical theme on the McKelvy cartons; the use of a type and color of pottery glass said to have been originated by Shulton and the use in bottle caps, lettering and advertising of a bright red color said to be the same as used by Shulton. The complaint, which asks an injunction and damages, charges that these alleged similarities are such as to cause purchasers to believe that the McKelvy lotion is the product of Shulton.

The McKelvy company has stated that it will vigorously contend the suit. Its statement asserts that the word "Seaforth" is the distinguishing trademark of the product in question; that the word "Spiced" is used in a descriptive and not a trademark sense and that Shulton has disclaimed the word "spice" in other trademark applications. McKelvy denies that there has been any imitation of the Shulton packaging, stating that a bottle of the same color as that used for the new lotion has been used for several years on another McKelvy product; that there is nothing distinctive about the color red in labeling and that, in fact, the red cap on the Seaforth lotion helps to distinguish it from the Shulton product, which has no red cap. The Seaforth carton design, which features a map of India, was adopted specifically to distinguish it from any other carton, McKelvy says.

* See "Shulton's Old Spice for Men," *Packaging's Hall of Fame*, *MODERN PACKAGING*, Sept., 1953, p. 102.

Set-up box winners

(This article continued from page 139) brown and black. Lid is hinged to base and opens at the side. A U-shaped cut through bottom of box can be pressed up to raise carbon-paper sheets for easy removal. Second award, Crompton-Schoettle, Inc., for Whiting Patterson Co.'s Guild typewriter-paper box. **Mailing Boxes:** First award, Walter P. Miller Co., Inc., for Ciba pharmaceutical mailer, manufactured for Ciba Pharmaceutical Products, Inc. Simple, clean design and slim shape of this box provide a modern, up-to-date vehicle for mailing samples of new products. In black and

purple, effective reverse printing is used on the wrap. Thumb holes are punched for ease of opening and large sealing flaps extend from the lid, covering the paper. Two honorable mentions were presented in this category: Kiernan-Hughes Co., for Geigy Pharmaceuticals' pharmaceutical mailer; and Walter P. Miller Co., Inc., for drug mailer for Burroughs Wellcome & Co., Inc. **Miscellaneous:** First award, J. F. Friedel Paper Box Co., for candle display and vendor box, manufactured for Will & Baumer Candle Co., Inc. A self-service display used for dispensing blessed candles,

Eye-appeal means extra sales-appeal for ice cream in STYRON CONTAINERS



**Sparkling, clear Styron packaging
puts flavors on display . . . creates
new merchandising opportunities
at the market**

Put your ice cream flavors on display and they'll make their own strong bid for impulse sales! In crystal clear containers made of Styron®, ice cream looks as good as it tastes . . . commands preferred position in product-moving display space in the retail store.

Styron plastic containers are engineered and designed for ice cream packaging in a wide variety of sizes. They're lightweight . . . durable . . . won't peel or absorb butterfat. And because of the low heat transfer properties of Styron, they help keep cold in . . . heat out. These sparkling Styron plastic containers have been evaluated by the Dow Product Evaluation Committee to assure you finest quality in material and workmanship . . . and they can be used on mechanical filling equipment.

Make the most of this brand new packaging distinction for your ice cream. Let Dow put you in touch with molders who can help you give your ice cream the extra eye-appeal that clinches quick sales! THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales, PL 457U.

THE DOW CHEMICAL COMPANY, Plastics Sales, PL 457U, Midland, Michigan

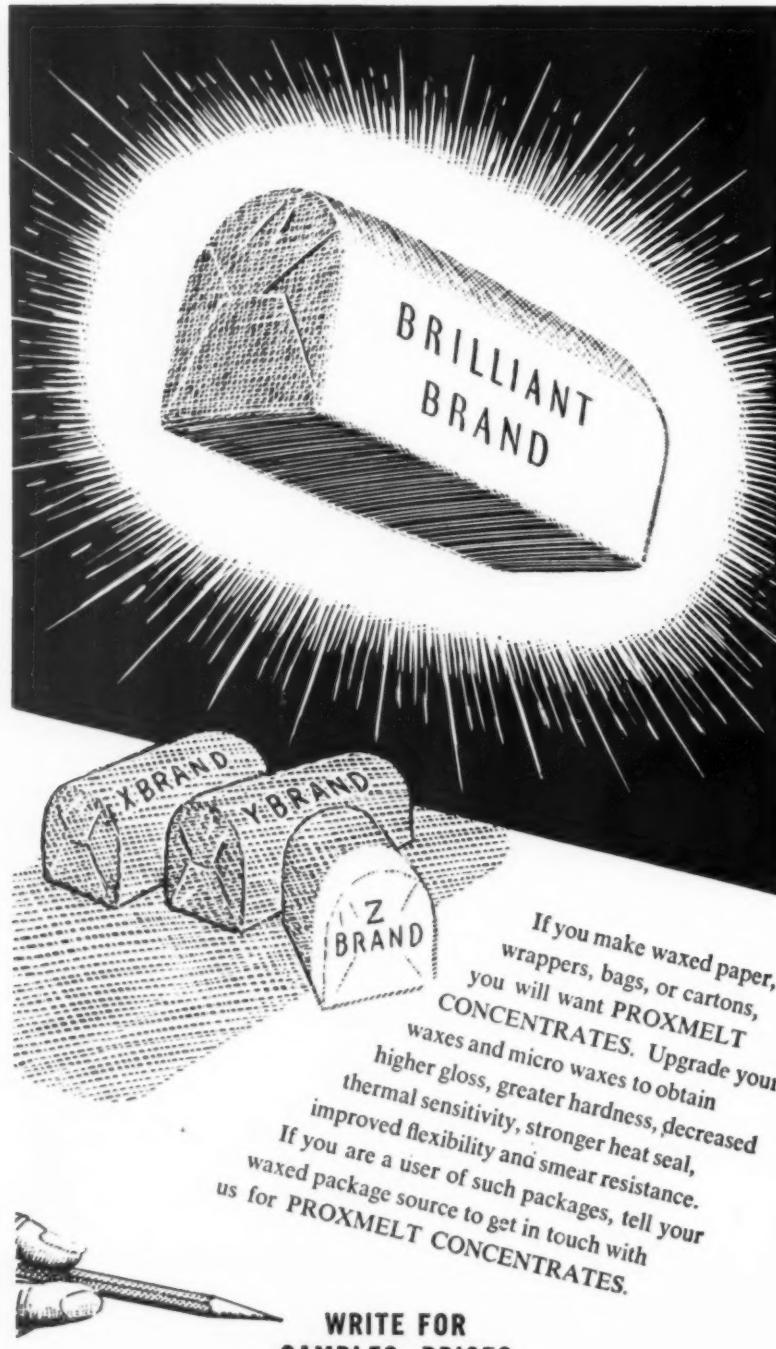
Please send me your Styron Rigid Container Catalog.

Name Company Street
City State Product

you can depend on DOW PLASTICS



Does *YOUR* wrapper put others in the shade?



WRITE FOR
SAMPLES-PRICES

PYROXYLIN PRODUCTS, INC.

PAOLI, PENNA.

CHICAGO 32

WICHITA, KANSAS

this box has a lid which is slit for inserting money which drops onto a tray insert. Between the partitions and at the base are angular platform inserts which act as sliding boards to feed the gold-covered foil-wrapped candle boxes forward when the front package is removed. Second award, Sterling Box Co., for Papercraft Corp.'s Gift-Tie Ribbons box.

Best Surface Design and Execution: First award, George H. Snyder, Inc., for cosmetics box manufactured for Helena Rubinstein, Inc. Flawless reproduction of a masterful art design makes this box imposing for counter display. Wrap is blue and graceful artwork is on a label in matching blue with red and gold metallic inks. A platform, with tray inserts, is built into the base. Lid telescopes over open-front neck.

Best Display Box: First award, Cambridge Paper Box Co., for clock display box manufactured for Norman Industries, Inc. This box, which also received honorable mention for *Superiority of Construction*, dramatizes by effective construction the idea, "There's a Telechron electric clock for every room in the home." A blueprint covering the surface of the inner box lid is raised in sections to expose clocks suitable for each room. In the carrying-case lid, the envelope forcefully briefs the sales message.

Superiority of Construction: First award, W. C. Ritchie & Co., for perfume display box manufactured for Lucien Lelong, Inc. Outstanding construction features permit compact packaging, safe shipping and easy, attractive display. Construction centers around a three-tier pedestal to which is glued a foil-covered board backdrop with hinged trays attached. Trays, partitioned to create shelves for window-box inserts, close in around the pedestal and the unit slips into a shell which protects in shipping and becomes a gift container. Second award, Dennison Mfg. Co., for Jacques Kreisler Mfg. Co.'s watch-bracelets boxes.

Best Transparent Box: First award, W. C. Ritchie & Co., for acetate and paperboard camera box, manufactured for Eastman Kodak Co. A heavy-gauge acetate inner box cover serves a purpose and adds beauty to this package. Contents can be displayed, yet protected from dust and unnecessary handling. Rigidity of the acetate and distinguishing angular inner lid suggest precise engineering associated with fine cameras.

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packaging accuracy at high speed

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with

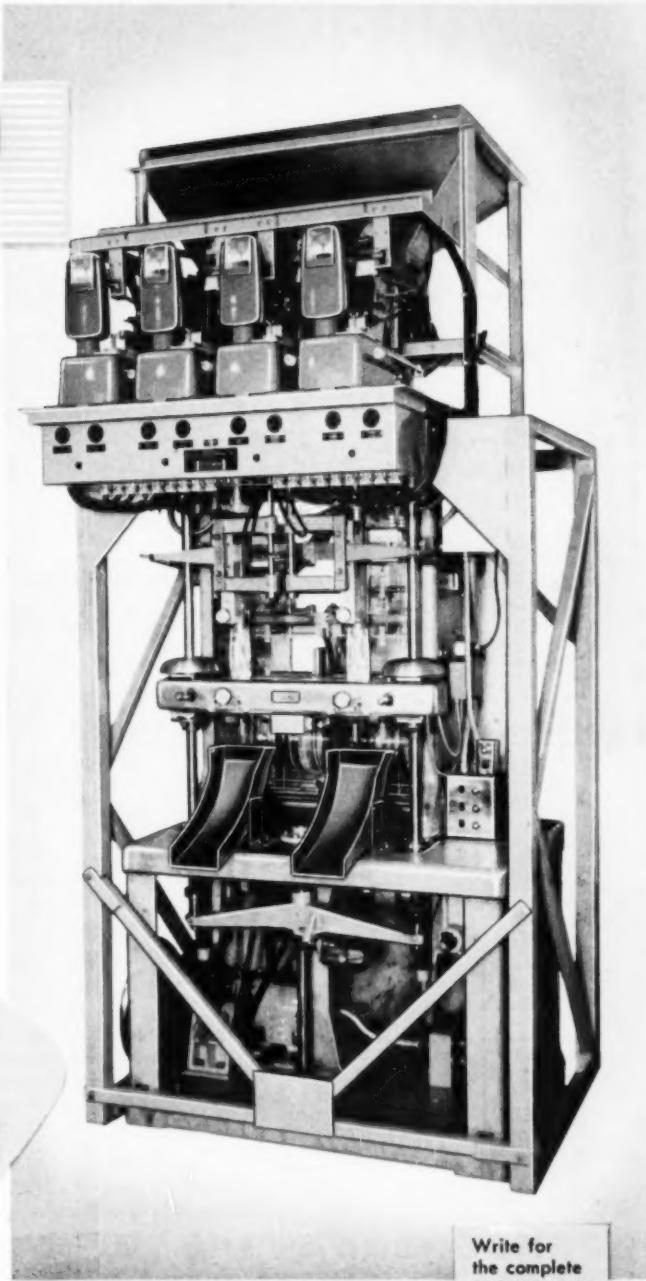
NET WEIGHT SCALES

STOKESWRAP with Net Weight Scales brings you automatic packaging plus accuracy and high speed. Up to 60 packages can be filled per minute through the use of multiple scales.

A special vibrating device feeds the bulk of the product from hopper into the weighing bucket. The exact weight is then accurately measured by dribble feed. **SCALE WILL NOT DUMP UNLESS PROPER WEIGHT IS REACHED.** The scale range is one ounce to one pound.

The STOKESWRAP forms, fills, and heat seals using any approved film, paper or foil; plain or printed. Package limits range from a maximum of $5\frac{1}{16}$ " wide and $12\frac{1}{2}$ " long to a minimum of $1\frac{3}{16}$ " wide and 1" long.

**For accurate
packaging of free flowing
and mixed materials not suitable
for volume filling**



*Your present STOKESWRAP can be equipped
with these specially designed Net Weight Scales.*

**Write for
the complete
STOKESWRAP
story.**



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SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION

"what a *difference*

AVERY Kum-Kleen LABELS make...

they're pressure-sensitive!



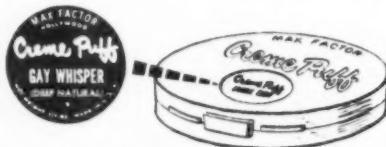
... can't beat 'em for advertising and informative labeling
—on the **PRODUCT, PACKAGE or POINT OF SALE!**"

Make your products *talk*! Even when there's no salesman around, Avery Kum-Kleen Labels work for you—at the point of sale! With fingertip ease they're laid on the product or package to point out sales features and advantages—information and instructions. They tell your customer what he's buying...why he should buy...and how to use it!

■ For advertising and merchandising work, Avery Pressure-Sensitive Labels put your message right where you want it—on the package, product or on any clean, smooth display surface.

■ Avery Kum-Kleen Labels are on in an instant—with *no moistening* or waste motion. They stick tight and won't dry out, curl or pop off...they stay neat and attractive through rough handling—yet they're easily removed, when necessary, without soaking or scraping!

■ Available in any size, shape or color...they're individually die cut on sheets or in rolls for automatic labeling at production-line speeds. Patented Avery Dispensers, in either manual or electric models, can save you real time and money—write now for more information and free samples of Avery Pressure-Sensitive Labeling—*do it today!*



SPECIFICALLY SPEAKING...

Few firms have as efficient production lines as Max Factor Hollywood! One, for example, easily handles more than 25,000 plastic containers in 6 hours. And only two labeling stations, each equipped with one Avery electric dispenser, handle this job quickly and easily.

Yes, Max Factor uses Avery Labels by the millions each month...and for a good reason: Avery Kum-Kleen permits extra high-speed labeling of their quality cosmetic products, *plus* an attractive appearance worthy of the legendary name—Max Factor Hollywood! Avery Labels can help you, too...whether you use 30 or 30,000 labels a day. Try 'em—they are different!

AVERY ADHESIVE LABEL CORP., Custom Div. 127

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Please send case histories
and free samples

Have the Avery Label
man call

Name _____

Company _____

Address _____

Our Business Is _____



Swift pre-packages chickens

Swift & Co. is reported to be the first major packer to enter the field of centrally tray-packed poultry. The company is now offering its nationally distributed brand of "Tender Grown" Premium chickens freshly cut up, pan ready and pre-packaged in Pliofilm.

In this centralized packaging operation, Swift uses a 120-HM Pliofilm



film overwrap, which has a relatively high gas diffusion rate and a controlled moisture transmission rate. These characteristics of the material are said to eliminate off-odor build-

up and to reduce shrinkage of the meat.

Typical of Swift & Co.'s centralized poultry pre-packaging operation is its Jasper, Ind., dairy and poultry plant.

There the chickens, after being dressed and inspected, are cooled to a proper keeping temperature. The poultry is removed from cooling tanks just prior to being cut up. Each cut-up chicken is arranged for best merchandising appearance in a tray, then weighed. A paper label carrying the Swift Premium trade identity and marked with weight is placed on top. Sheet Pliofilm, pre-cut from rolls, is used for the overwrap. Packaging is accomplished on a heat-sealing, special tuck-type, semi-automatic wrapping machine. Individual packages are placed in crates of 12 or 24, packed in crushed ice and shipped to distributors the same day. At no time is the poultry frozen during this operation. Chickens that are killed one day are ready for sale the following day at retail outlets hundreds of miles away.

CREDITS: Pliofilm, Goodyear Tire & Rubber Co., Akron, Ohio. Packaging machine, Pack-Rite Machines, 407 E. Michigan St., Milwaukee 1, Wis.

Toys and games

(This article continued from page 109)

package—small parts of the toy being wrapped individually or in proper groups in film envelopes, usually heat sealed. The automatically formed, filled and sealed unit pack is firmly established in food, drug, chemical and hardware packaging, but is only now making inroads into toy packaging. Any number of toys, and particularly games and hobbies, have small parts which if lost or improperly assembled may destroy the value of the entire unit. The sealed packet minimizes this possibility and contributes to a clean and orderly arrangement inside the carton.

Individual cellophane bags hold the plastic parts necessary for making four "Famous Ships of History," a product of Pyro Plastics Corp., Pyro Park, Union, N.J. In this case, the bags, which are placed inside four individual trays inside a two-piece, set-up box, are not sealed, though many toy manufacturers today have heat-sealing equipment.

A de luxe example of assembly of components is the package created for the Dy-Dee doll by the Effanbee Doll Corp., New York. The objectives were to attain full visibility for the doll, her wardrobe and all her small accessories, yet protect from loss and soiling; to prevent the merchandise from shifting in the package and to give a quality appearance.

The main container, a hinged suitcase of wood frame construction with containerboard covering, is usually opened in the store for display purposes. To show the many parts of the ensemble to the best advantage, the interior is made up of three parts, each of which is covered with cellophane. Stapled to the inside top lid is a platform containing the doll's bubble bath, instruction booklet, milk bottle, spoon and other items. Nesting into the bottom half of the suitcase is a tray containing the doll's clothes and below it a cradled board, stapled to the side of the container,

(Turn to page 114)



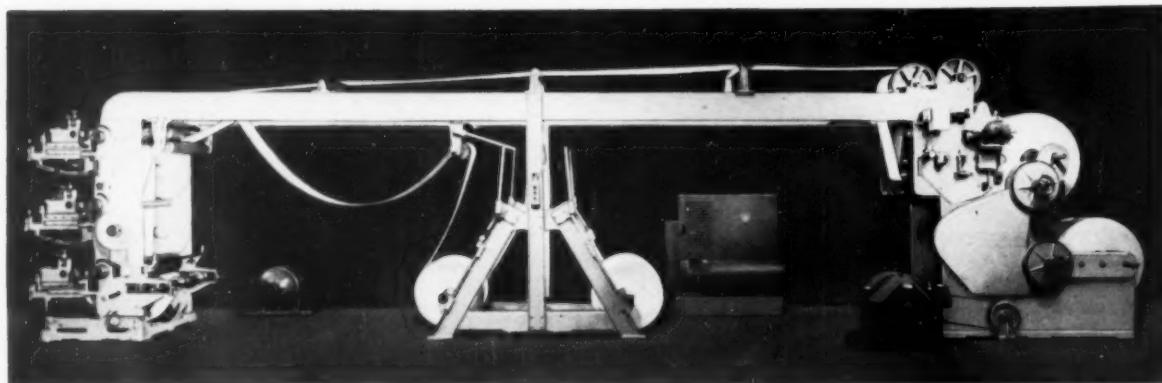
Let Chaspec help your sales grow too! For fresher merchandising displays and packages of distinction, call on us today!

THE
Chaspec
MANUFACTURING COMPANY
Greenwich, Connecticut

Established 1920

Chaspec has grown too, and offers an exceptional opportunity to one or two top-notch sales representatives in N. Y. and out of town.

New **MANHASSET** Flexographic Presses score on both counts



Model shown: "APS" #336

...1954 models deliver volume production and precision quality

If you're looking for a better, faster way to print, tint or coat any kind of paper stock—from lightest tissue to 45-pt. board—the new **MANHASSET** "APS" is the press you need. A multi-color flexographic press that assures clean, in-register impressions at speeds up to 600-fpm, the **MANHASSET** "APS" is specially designed to permit quick changeover from one job to the next. It is precision-made with heavy-duty solid frames...simplified operating and running register controls...automatic constant tension controls...and includes many other new, up-to-the-minute design features. The **MANHASSET FLEXOGRAPHIC PRESS** is available in various sizes to print up to 6 colors...handle mill rolls from 16" to 72" wide and up to 60" diameter. It is furnished with center-core rewinder and gear-driven rotary shear slitter; also, if required, sheeter and stacker, perforator, etc.

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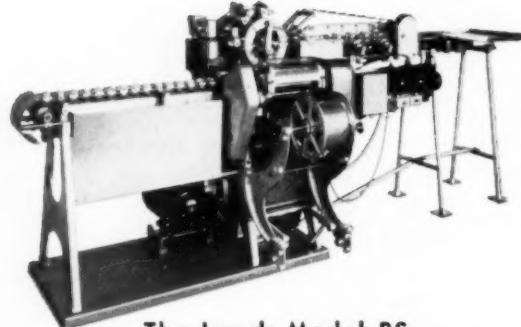
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MACHINE CO.

Mineola, New York

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Standard for
economy

Lynch packaging is keyed to operating economy. The design objectives of Lynch engineering constantly stress money-saving speed, less waste and reduction of needed manpower. The rigid Lynch standards of manufacture and materials assure you savings in maintenance.



The Lynch Model RS

wraps cookie or cracker sandwiches faster

Now . . . round or square cookie or cracker sandwiches can be wrapped in more attractive, faster-selling packages at new higher speeds and with greater economy. The Lynch Model RS precision-wraps up to 100 multiple-unit packages per minute—yet cuts scrap loss to a degree never before achieved.

Learn how the RS, with its many new design features, can give you steady, profitable production in your plant.

Write to Dept. M for full details

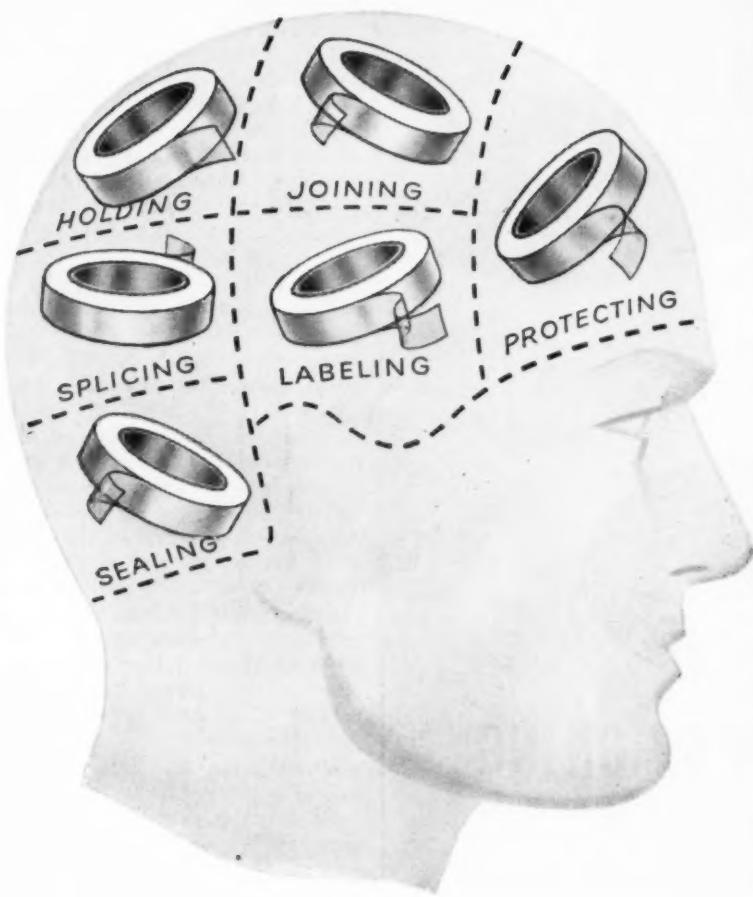
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Branches: New York • Toledo • Chicago • San Francisco • Los Angeles
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When you think of saving... Think of TAPE!



Famous "Scotch" Brand Cellophane Tape is a time-saving, money-saving tool all over the plant! Remember, it's crystal clear and sticks at a touch—tighter than ever before. Use it for holding, joining, protecting—any of a thousand different jobs. Tape does it faster, better, cheaper! For more information, write on your letterhead to Dept. MP-64.

CELLOPHANE TAPE...ONE OF
300 PRESSURE-
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The term "Scotch" and the plaid design are registered trademarks of Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota. General Export: 122 E. 42nd St., New York 17, N.Y. In Canada: London, Ontario, Canada.

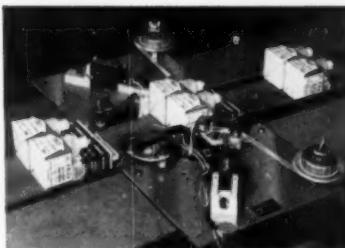
**LOOK what
you can do
with it!**



FASTEN AND HOLD wrappers and labels to irregular or adhesive-resistant objects. Here, "Scotch" Brand Cellophane Tape is used to hold foil wrappers on stick cologne.



SEAL BOXES efficiently with "Scotch" Brand Cellophane Tape and "Scotch" Brand Box Sealer. Tandem sealers apply strips of tape to each end of box as it passes between rollers.



JOIN PACKAGES for special "combination deal" sales with "Scotch" Brand Cellophane Tape and "Scotch" Brand Combination Package Sealer. Machine handles $\frac{1}{4}$ " to 1" tape widths; turns out up to 75 deals a minute.



APPLY AND PROTECT labels easily and quickly with "Scotch" Brand Cellophane Tape. Here, 6" tape holds labels on bottles; protects against smudging, alteration, or smearing.

you can

Pack Anything with



SUPERIOR CUSHIONING
PADS & BLANKETS
and save money, too!

PROTEX pads and blankets give you the maximum interior cushioning protection obtainable and fit virtually any product or assortment you can name! The cost is substantially lower than most other forms of interior cushioning and take only a fraction of the time to pack. Avail yourself of this important money-saving clean method of packing. The protection your products get is superb...resists all forms of shock and protects the finish of the product as well. Ease of packing, availability of ample supplies of packing material on hours notice are important too...you don't have to order far in advance of production or store supplies all out of proportion to their rate of consumption.

Consult us—Present your packing problems to us for complete package engineering design and service by experts. We will show you how to improve package performance and save money too!

WRITE, WIRE, OR PHONE US

AMERICAN EXCELSIOR CORPORATION
 1000 N. Halsted St., Chicago 22, Illinois

NATIONWIDE SALES & DISTRIBUTION



(This article continued from page 211)
 and containing the doll, soap, brush, wash cloth and additional clothes.

Miniatures and machinery

The trend to use of miniature samples of actual branded packages as parts of toy sets, previously described in these pages,⁵ has exposed some toy manufacturers to a batch of packaging problems unprecedented for them. These miniature brands include everything from detergents to shoe polish, cake mixes to permanent waves. Companies like Pillsbury and Toni have joined toy manufacturers in the program with the thought that the child will come to know and want their brands as she grows to maturity. Kay Stanley, Inc., Chicago, in packaging a Pillsbury cake-mix set, has set up a whole automatic production line for automatically filling and sealing cartons and cellophane bags with cake-mix ingredients. Some manufacturers, however, like Johnson & Johnson prefer to put up their own.

Automatic production lines are few and far between in toy packaging. Even companies as large as Ideal Toy, which last year did a sales volume of \$23,000,000 on 2,000 products and has as many as 250 persons working exclusively on packaging, is without automatic packaging equipment. However, the company does have a network of conveyor belts for their assembly work.

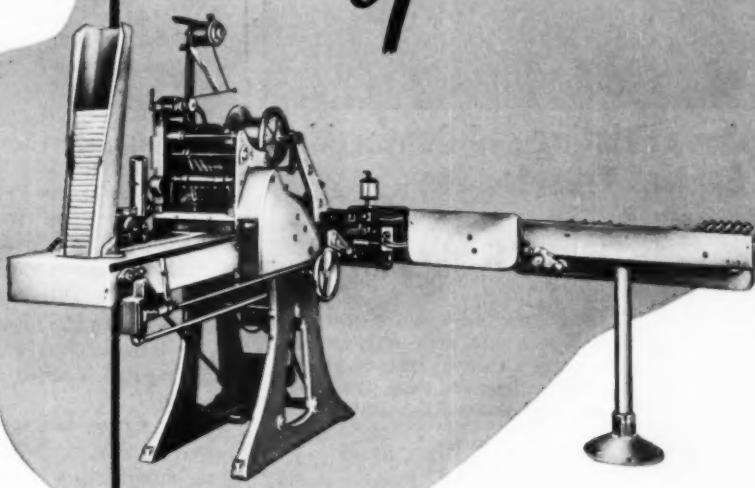
Mechanization has been slow in coming to the toy field not only because of lack of product standardization, but because so much of the packaging is seasonal. Expensive automatic packaging machinery can seldom be utilized sufficiently or steadily enough to justify the cost. Less-formidable equipment like hoppers and bag sealers for packaging small components is frequently used.

A portent of the type of mechanization that may eventually overtake toy packaging, however, is seen at the plant of Collector's Kits, Inc., Closter, N.J., where the packaging of a plastic kit for building fire engines grew from semi-automatic to automatic stages. At first the company packaged the plastic parts in cellophane bags, opened by air blowers, filled from hoppers and heat sealed by hand. Filling difficulties led the company to search for something better.

The production line was finally

⁵ See "Get 'em Young," MODERN PACKAGING, Nov., 1953, p. 91.

MULTIPLY *Your Sales!*



MULTIPLE WRAPPING MACHINES BY SCANDIA



- HIGH SPEED WRAPPING
- AUTOMATIC INTAKE
- EASY OPENING TAPE
- CONTINUOUS OPERATING
- ALL ROTARY MOTION

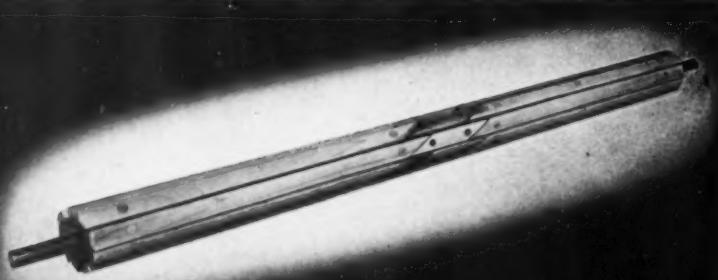
MACHINES
AVAILABLE
ON
RENTAL BASIS
FOR
MARKET TESTING
NEW PRODUCTS
AND PACKAGES

SCANDIA
Manufacturers of Better Packaging Machinery

• 500 BELLEVILLE TURNPIKE • NORTH ARLINGTON, N. J.
330 SOUTH WELLS ST., CHICAGO 6, ILL.



BUNDLING • BANDING • MULTIPLE WRAPPING • STAMPING • HIGH SPEED WRAPPING
MANUFACTURED UNDER BRONANDER PATENTS.



Make Your Cellophane Printing and Converting Faster, Easier, Trouble-Free

TO KEEP WEBS tight and neat, and to eliminate pesky wrinkles which interrupt processing and cut into production, an increasing number of convertors and printers are using Progressive Anti-Wrinkle Slat Expanders.

You can employ these efficient units on printing presses, coaters,

laminators, bag makers, wrappers and other packaging machines which use cellophane and plastic films.

Since Progressive Slat Expanders come in all widths, are easy to install, and occupy almost no space at all, it is simple to integrate them with your present equipment.

*Ask for complete details and prices.
Certain sizes in stock.*

Forward products company

167-169 East 31st St.

Paterson 4, N. J.

New England Sales Rep.: Barrett & Breen Co., 50 Congress St., Boston 9, Mass.



*Did you ever see
Cardboard talking?*

Well, we do it **EVERY** day . . .
transforming Cardboard, through
merchandising Know-how and
technical ingenuity into thousands
of persuasive salesmen for your
product.

*Enjoy greater profits
and dependability*



try **BROOKS & PORTER INC.**
304 HUDSON STREET • NEW YORK 13, N. Y.
DESIGNERS AND MANUFACTURERS OF DISPLAYS AND FOLDING BOXES

mechanized by adopting a telescoping set-up box with the bottom shell overwrapped in 300 MS-1 cellophane. As it is now done, the bottom shells of the boxes are filled on a conveyor belt which carries them to a machine where they are automatically overwrapped with cellophane and heat sealed. The new method has made it possible to add more parts to the model and still increase the packaging speed over the former method.

Packaging cost

The subject of packaging cost in 19 different product fields was explored recently by MODERN PACKAGING in a pilot survey.⁶ The report indicated that the cost of toy packaging represents, as a broad average, 9.1% of the manufacturer's selling price. The figure was among the lowest in the list of 19 because it is expressed as a percentage of a relatively high-cost product.

In connection with research for the present article, individual toy and game manufacturers reported a range of cost figures anywhere from 2 to 3% of the selling price, up to 10%. No matter how much the percentage figure may be, the consensus is that toy manufacturers are spending more money on packaging today, looking upon it as an advertising and merchandising investment that pays off.

There was never a better time for the toy manufacturer who is prepared to make most of his opportunities with a progressive outlook on packaging. He no longer can make any compromises with packaging, because he's part of a big industry full of stiff competition in a world in which consumers are increasingly packaging conscious.

⁶ See "What Does Packaging Cost?" MODERN PACKAGING, March, 1954, p. 125.

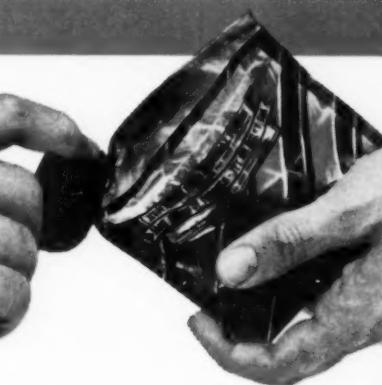
Plastic films—

(This article continued from page 151) ing the work described in this paper. They wish to thank Prof. Karl Kammermeyer of the University of Iowa, who conducted the permeability tests and also supplied most of the information on porosity. Manufacturers of polyethylene and film extruders also were significant contributors to this development. Among the firms supplying samples in large numbers and also ideas for the program, the following deserve special mention: Union Carbide's Bakelite Co.; the Du



SHOW

AND
FOR
FRESHNESS...



USE FILM MADE FROM "BAKELITE" POLYETHYLENE

Show helps sell foods like candy. Pack them in "see-through" film made from BAKELITE Polyethylene. It's soft and flexible, yet strong enough to withstand handling by shoppers. Its aging properties mean lasting good looks.

Freshness of product is especially important in tobacco packaging. Laminated to foil's inner side, film made from BAKELITE Polyethylene forms a strong heat-seal on high-speed machinery. The foil-film combination keeps moisture in, air out. The tobacco-pouch package stands up under repeated folding by the user.

Film made from BAKELITE Polyethylene is virtually odorless and tasteless, so food is safe. Colorless, and resistant to discoloration, it always looks clean. Highly in-

ert, it's unharmed by contact with most chemicals.

You can get all these features for your package by specifying film made from BAKELITE Polyethylene. To learn more about its packaging applications, write Dept. XN-55.

Data courtesy **Continental Can Co., Shellmar-Betner Flexible Packaging Division, Mount Vernon, Ohio**

BAKELITE
TRADE-MARK
Polyethylene

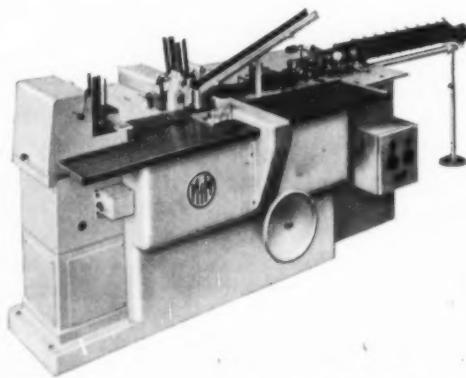
BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation **UCC** 30 East 42nd Street, New York 17, N. Y.



Cartoning Machines

Fully-automatic, for packaging various products in folding cartons. Closure by gluing, or insertion of the end flaps on both sides.

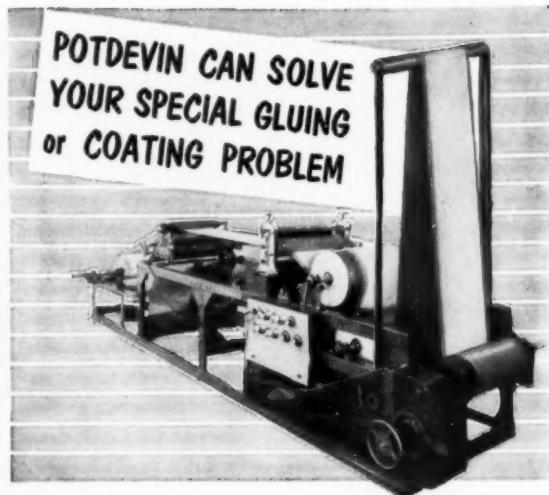
Please write for our catalogues and technical advice for your particular requirement.



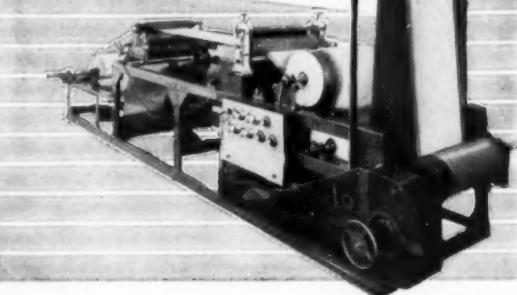
(Manufactured in West Germany)



INDUSTRIE-WERKE KARLSRUHE
Aktiengesellschaft / KARLSRUHE



**POTDEVIN CAN SOLVE
YOUR SPECIAL GLUING
or COATING PROBLEM**



Hundreds of machines available that were designed for special industry applications.

Let us know your problem. We'll be happy to submit recommendation.

If your problem is high speed coating of paint, varnish, glue, latex, etc. — POTDEVIN's sixty years of specialization in coating equipment can quickly help you solve it . . . guaranteeing initial low cost and top efficiency. Illustrated is just one of hundreds of special machines. It laminates rolls of materials up to 20" wide at speeds up to 50 feet per minute.



POTDEVIN MACHINE CO.

244 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling



"A
teeny
weeny
OUNCE
of

CLAREMONT FLOCK

creates a POUND of allure!

Clarendon Flock...the plush that sells! Available (18 brilliant colors) from paper suppliers, affixed to sheets and boxboard. Can be printed, stamped, scored, die-cut. Imagination, alone, limits its uses! Write for color chart and data.



CLAREMONT WASTE MANUFACTURING COMPANY
The Country's Largest Manufacturer of FLOCK

CLAREMONT, NEW HAMPSHIRE

Pont Polychemicals and Film Departments; the Imperial Chemical Industries, Ltd.'s Plastics Division; Plax Corp. and Visking Corp.

References

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5. Brubaker, D. W., and Kammermeyer, Karl, *Analytical Chem.*, 25, p. 424 (March, 1953).
6. Carson, F. T., "U. S. Bureau of Standards Journal of Research," 12, p. 567 (May, 1934).

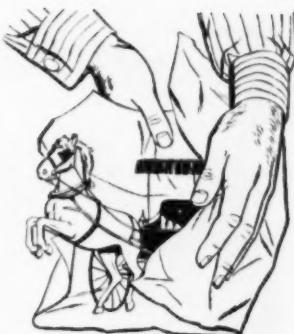
Aluminum promotion

Conditioning the public to aluminum packaging has been the principal aim of the Reynolds Wrap sales campaign, according to David P. Reynolds, vice president, general sales, Reynolds Metals Co. He told members of the Sales Executive Club of New York and the American Marketing Assn. at their recent joint luncheon meeting that the greatly expanded aluminum supply after World War II necessitated getting out and selling.

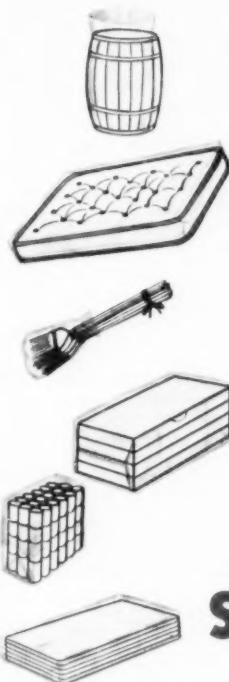
To make the consuming public aluminum conscious, Mr. Reynolds stated, "we selected Reynolds Wrap to be our champion . . . The launching of Reynolds Wrap was the largest mass sampling campaign in metal's history." Success of the campaign is revealed by the results of surveys, one conducted when Reynolds Wrap was first marketed and another last year. The early one revealed "only 8% of the people knew what aluminum foil packaging was and only 3% knew that it protected the product better. Last year's survey showed that 92% preferred foil packaging and 71% knew it protects better . . ."

The Reynolds Wrap Aluminum Packaging Seal, developed to enable the company's packaging customers to benefit from Reynolds Wrap popularity, was adopted for more than 100 nationally advertised products within eight months, Mr. Reynolds added.

STOP horse-and-buggy wrapping . . .



Use Bemis Paper Bags and cut your packing and shipping costs!



It's a safe bet that you can save time and labor—the most costly factors in your packaging operation—by converting to special paper bags made by Bemis. There is almost no limit to the kinds, shapes and sizes of products you can economically package in Bemis Paper Bags. The products shown here only suggest the possibilities.

Ask for the Bemis Paper Specialty Man to help work out your problem.



Bemis

Paper Specialty Plants
1054 South Vandeventer
St. Louis, Mo.
Albion, New York

MAIL THIS TODAY

BEMIS BRO. BAG CO., Paper Specialty Plant
1054 South Vandeventer, St. Louis, Mo.

Could you suggest a more economical package that would be suitable for our product?

We manufacture _____

Name _____

Firm Name _____

Street _____

City _____

Zone _____ State _____

MARKE M**SOLVED THIS MARKING PROBLEM****PRINTING
LABEL INFORMATION
ON CARTRIDGE
ENCLOSED FUSES**

Working closely with Underwriters' Laboratories, Inc. and with leading fuse manufacturers, Markem has developed a method which makes possible for the first time the printing of label information directly on cartridge enclosed fuses at production rates. Markem's direct ink imprints cannot "fall off" and are unaffected by moisture or ordinary chemical atmospheres. Paper label inventory and wastage problems are eliminated. Print is larger and color coding and identification are simplified. Fuse manufacturers anticipate better labeling at higher production rates and with lower costs. The Markem Method—Markem Machine, Markem type and ink and the special recording die roll for use when UL Manifest is required—as well as the imprint itself meet with UL approval.



MARKE M

MARKS THEM ALL



**CAN MARKEM
HELP YOU?**

Printing labels directly on cartridge enclosed fuses is but an example of how Markem solves industry's marking problems. Markem has been providing industry with production techniques and equipment to identify, decorate or designate its products, parts and packages since 1911. Markem also provides technically trained men who are available in your area to assure continued satisfaction with Markem methods and equipment.

When you have a marking problem, tell us about it and send a sample of the item to be marked. Perhaps a complete Markem method has already been developed to solve your problem. If not, Markem will work out a practical solution.

Markem Machine Company, Keene 1, N. H., U.S.A.



Win Welch awards

The coveted Charles S. Welch Memorial awards for the most outstanding cosmetic packages of the year were presented recently at the annual meeting of the Toilet Goods Assn. in New York to Velo-Derma, Ltd., a division of Charles of the Ritz, Inc., for its treatment line, in the category over \$1, and to The Mennen Co., for its men's line, in the category under \$1.

Velo-Derma won the approval of the judges for its gray and white



streamlined flacons and jars for its line of four products. The new packages are a modernized interpretation of the old line so that their original identity is retained. Gray and white were chosen as the color scheme for their neutrality and unique appeal for display on the counter and dressing table. A clear-view section on the bottom of the bottles gives an interesting two-tone effect while acting as a convenient device for checking the contents.

The new award-winning Mennen packages feature simplicity and maximum impact for self-service selling. Theme of the new packages aims at (1) continuing the strong and long-used Mennen logotype, the green and white stripe in a modern eye-catching over-all design; (2) adding brightness and life to retail shelf displays through increasing white space, product use illustrations and red to highlight sales points. In addition, a modern version of old-style type face is used to tie-in with Mennen's 75-year history as a pioneer in the drug and toiletries industry.

The panel of judges consisted of Catherine Finerty, *Charm* magazine; Stanley Swabach, Abraham & Straus; Mrs. Martha Wood, National Beauty & Barber Mfrs. Assn. Bronze plaques were presented by Joseph Keho, chairman of the Charles S. Welch Award Committee, to Richard Salomon of Velo-Derma, Ltd., and W. C. Mennen, Sr., of The Mennen Co.



**Lermer Plastic Containers . . .
handy, handsome re-usable
protection for your products**

Package your products in the containers that your customers and prospects want. Package in Lermer Plastic Vials because they offer the ultimate in eye appeal and protection and because they give your customers durable, long-lasting containers in which to retain your products. After the contents have been consumed, the containers are re-used for other purposes, and your name remains with your customers as a reminder for additional purchases. You have proved that you use the finest package available, and the cost to you is no more than ordinary packaging.

CONSIDER THESE UNEXCELLED ADVANTAGES OF LERMER PLASTIC CONTAINERS.

- They Are Shatterproof, Assuring Customer Good-Will
- 75% Lighter Than Glass, Saving You Money in Packing and Shipping
- Not Affected by Alcohols, Alkalies, Weak Acids
- Tasteless and Odorless
- Available Clear or Opaque, in a Host of Bright, Lustrous Colors
- Can be Printed or Decorated during Manufacture
- Always Uniform for Easy Labeling, Filling and Capping
- Available with Metal or Plastic Closures

Write for complete catalog information and samples. Detail your problems and let our creative staff help. Lermer is famous for Experience, Service and Creative Engineering.

Lermer
PLASTICS, INC.

PIONEERS AND PACESETTERS IN PLASTIC PACKAGING
502 SOUTH AVENUE, GARWOOD, NEW JERSEY

**NOW Constant Tension
From Start To Finish
In Winding Roll-Fed Material**



**New HOBBS
"ALQUIST"
WINDER**

**Never Before Anything
So Efficient • Simple • Versatile**

This is your chance to obtain a higher quality of wound material than ever before—and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "Alquist" Winder. It's in a class by itself. No other winding device can match it for simplicity, efficiency and flexibility.

OPERATES ON A.C. Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. You connect it directly to your rewind shaft. It is entirely independent of the main machine drive. You plug it into your present three-phase power outlet — no transformers or converters to bother with. Then you set a knob to the desired tension and walk away.

AUTOMATICALLY SENSES TORQUE From the start to the very finish of your rewind operation, the "Alquist" constantly and accurately maintains the desired tension — protects even the most delicate materials from stretching, breaking or contracting. Automatically the "Alquist" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Constant tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE Power utilization of the "Alquist" is as high as 80%, approximately four times greater than other types of winders. Maintenance is as slight as with any normal A.C. motor — there are no brushes or tubes. The "Alquist" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible — connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

PROVED IN PACKAGING USE The "Alquist" Winder already has been field-tested and proved in many packaging operations. You can buy an "Alquist" to handle materials of any type or weight and to meet any production requirement.

Find out for yourself just why the Hobbs "Alquist" Winder can make such a big difference — how it can give you increased production through *positive* quality control. Mail coupon below for free information. No obligation.

HOBBS MANUFACTURING CO.
27 Salisbury St., Worcester 5, Mass.

EST. 1888 Send full information on new Hobbs "Alquist" Winder.

Name..... Title.....

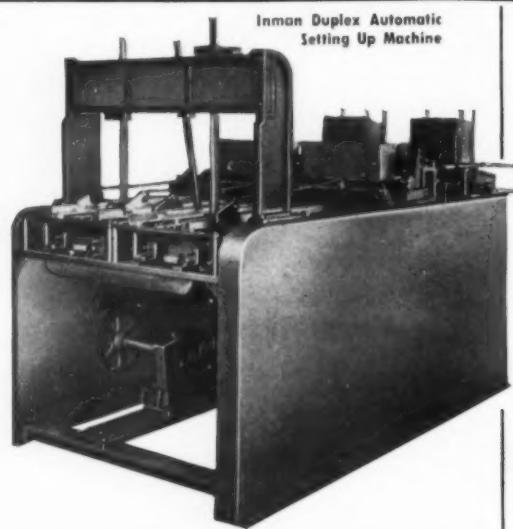
Company.....

Street.....

City..... Zone..... State.....

Set up boxes faster than ever

Up to 150 per minute



This machine is used for setting up conventional glue lap boxes and covers from die-cut blanks, up to 150 pieces per minute. A dual production line sets up two pieces at a time, for example—one box and one cover, or two boxes, or two covers. Construction is simple and sturdy.

SPECIFICATIONS

Depth	3 1/2" to 4 1/2"
Maximum Length	12"
Maximum Width	12"
Largest Blank	16" x 17"
Machine Speed	Up to 75 per minute
Production	Up to 150 pieces per minute
Floor Space	51" wide x 110" long
Weight	5200 pounds
Horsepower	2

Inexpensive tools for extra sizes available. Equipped with rotary gluers and completely adjustable forming well. One operator. If sizes beyond those specified are required, they can be accommodated by changes in design. Price and delivery on request.

Inman Manufacturing Company, Inc.

Amsterdam, New York

**SATISFACTION GUARANTEED
and YOUR MONEY BACK**

Faster, neater bagging . . . at lower cost . . . pays you many times the price of this easy-to-use bagger. Blower opens bag; your operator fills and removes it in one swift motion. Adjustable for bags from 2 3/4 to 5 inches wide and 5 3/4 to 7 1/2 inches high. Glad to quote for other sizes or cellophane.

TRIAL OFFER

Use this bagger a full week. Be 100% satisfied or return it for refund.

Just send samples of your bags and ask for Bulletin 6-29



\$65 complete, f. o. b. Rockford

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS



Package for
WHITTEMORE

Designed by
MAURICE KURHAN

Velour Label by
NASHUA CORP.

Container by
MIDDLESEX



This rolled edge container is an example of Middlesex production, combining efficiency, sturdy construction and low cost. A package adaptable to many uses, the rolled edge type is finding increased favor, particularly in the cosmetic field. Write for facts.



MIDDLESEX PAPER TUBE CO., Inc.
345 CHELMSFORD ST., LOWELL, MASS.

More 'sell' for less

(This article continued from page 131) and that the trimmings themselves have a number of household uses. A salesperson may take a quick look at the package and have a good sales talk ready. Or the shopper may see for herself the many advantages right on the package. A window insert on the front side of the package lets her see the product. Without those illustrations and the window, it would be impossible to sell the Shelf Kushions in a closed package—and without a package no store would be willing to handle them, as it would be virtually impossible to stack or display them neatly.

Wooster Rubber Co. is very proud of the recognition it has received for its packaging in winning several top packaging awards, including first place in the Household and Housewares division of the recent *Variety Store Merchandiser* competition, plus the grand prize award, "Best Package of 1953," in that competition. But more important to the firm is the sales effectiveness of the labeling and packaging that has helped the business to grow from a little company that 20 years ago exhibited a few products on a card table in a Chicago hotel to one of the largest in point of sales represented at the national housewares shows in Chicago and Atlantic City today.

CREDITS: Labels, Craftsman Press, Akron, Ohio; Holsing Lithograph Co., Canton, Ohio; A. L. Garber Co., Ashland, Ohio. Labeling machine, Potdecin Machine Co., 242 North St., Teterboro, N. J. Cartons, United Board & Carton Corp., 2 Park Ave., New York 16, and Great Lakes Box Co., 7275 Wentworth St., Cleveland. Designs, Canton Art Service, Canton, Ohio, and Pittsburgh Ad-Art Co., 600 Grant St., Pittsburgh, Pa.

Tear-strip cases

(This article continued from page 122) ting of the liner may be located in virtually any desired position on the container opens up many new design and functional possibilities. For example, if the opener is placed in the middle of the box, opening automatically divides it into two carry-out containers of equal size—an arrangement which makes split shipments possible without troublesome unpacking. Placing the opener near the bottom of the box produces a carry-out box plus a handy tray for building

p a r t i t i o n s f o r p r o t e c t i v e p a c k a g i n g



WRITE, PHONE or WIRE
for QUOTATIONS on
YOUR REQUIREMENTS

peter partition corp.

Manufacturers of Cardboard Partitions

19-21 HEYWARD ST. Telephone: BROOKLYN 11, N. Y. TRiangle 5-4033

Automatic Production-Line Package Imprinter Saves Cost of Labelling... Eliminates Big Inventories of Preprinted Packages



If you make more than one product—or your product comes in different colors, sizes, flavors, etc.—the Gottscho Markoprinter "M" machine (formerly Markocoder "3M") may save you thousands of dollars in packaging costs. The Markoprinter "M" is a fully automatic packaging-line imprinting machine that enables you to use a partially-printed or completely blank common package for dozens of different products—eliminates need of labels and labelling or of large quantities of preprinted packages for each product in the line. With the Markoprinter "M" machine you print names, numbers, code-dates, other identification data on one or more blank panels of cartons, boxes, canisters, etc. automatically...as part of the packaging operation. The net result: lower package inventories...lower labor costs...lower unit package costs...less down-time on the line...less loss from obsolescence...simpler inventory control.

For complete details...write-wire-phone...today

Gottscho

ADOLPH GOTTSCHO, INC.

Hillside 5, N. J.

In Canada: RICHARDSON AGENCIES LTD., Toronto & Montreal

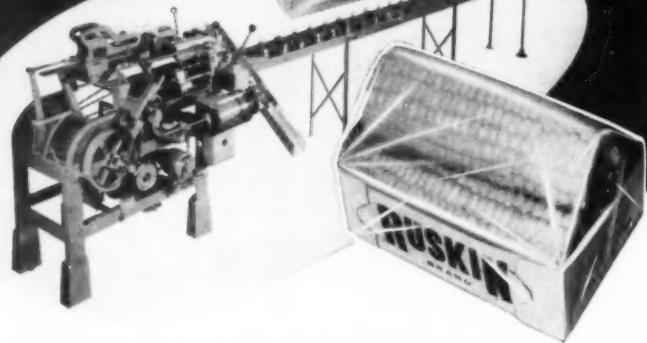


FLOWERS
LEMONS
TOMATOES
CORN

...A HAYSEN
WRAPS THEM ALL

...at lowest cost

...adds sales
appeal



Scores of industries have solved their packaging problems with HaySEN Automatic Wrapping Machines, and at a substantial saving in machine costs. The HaySEN is easily and quickly adjusted to wrap practically any size or shape of product, using all types of wrapping material from heat-sealing cellophane to aluminum foil.

A HaySEN gives you a neat, tight, uniform package...wraps up to 45 a minute with one operator.

Backed by 43 years of successful wrapping machine experience, the HaySEN is compact, simple and rugged, has a minimum of moving parts and a record for long life with low maintenance cost.

WRAPS ALMOST
ANY SIZE OR
SHAPE

Apples, Peaches,
Plums, Apricots,
Cherries, Grapes,
Onions, Salad
Mix, Pears,
Mushrooms, etc.

WRITE for further information.
Tell us your wrapping problem.
We have the answer.

IT PAYS TO WRAP THE HAYSEN WAY

HaySEN MFG. COMPANY

Dept. MP-6, SHEBOYGAN, WISCONSIN

Since 1910. One of the World's Largest Manufacturers of Wrapping Machines
for: PAPER • TEXTILES • BAKED GOODS • VEGETABLES • FROZEN FOODS
CANDY • ICE CREAM • DAIRY • MEATS • IRREGULAR SHAPES

store displays; in this instance, the copy on the tray can become an integral part of the sales copy.

Variations are endless. The essential point is that with these new-type containers, the location of the opening device and the design and printing of the box must be closely integrated for maximum results. Thus, in designing a shipping carton, it is now more important than ever for the artist or box supplier to know just how it is to be used all the way through to the retail outlet, so that the opening device and surface design may be properly correlated. Nor can he lose sight of the fact—as shown plainly on boxes illustrated in this article—that prominent attention must be called to the location of the opening device, along with a warning not to use knives or opening wedges on the container. The use of easy-opening containers presents a huge educational problem in acquainting store personnel with their proper handling, which must be accomplished via example as well as through information on the boxes themselves if it is to be successfully solved.

SOURCES OF SUPPLY (keyed to numbers in parentheses in text): (1) Downing Box Co., Milwaukee, Wis. (2) Minnesota Mining & Mfg Co., St. Paul, Minn. (3) H. G. Weber & Co., Inc., Kiel, Wis. (4) Container Laboratories, Inc., 45 E. 22 St., New York 10. (5) Downing Box Co., Milwaukee; Hinde & Dauch Paper Co., Sandusky, Ohio; International Paper Co., 220 E. 42 St., New York 17, and Waldorf Paper Products Co., 2250 Wabash Ave., St. Paul 4, Minn. (6) Eddy Paper Corp., 919 N. Michigan Ave., Chicago 11; Container Corp. of America, 38 S. Dearborn St., Chicago 3; International Paper Co.; Ohio Boxboard Co., Rittman, Ohio; Robert Gair Co., Inc., 155 E. 44 St., New York 17; Atlanta Paper Co., 950 W. Marietta St., Atlanta 2, Ga.; Waldorf Paper Products Co.; Hinde & Dauch, and Ft. Wayne Corrugated Paper Co., 130 E. Douglas Ave., Ft. Wayne 1, Ind. (7) Eddy Paper Corp. (8) Container Corp. of America. (9) Container Corp. of America and Ball Bros. (10) "Open-Eze" carton by The Flintkote Co., 30 Rockefeller Plaza, New York 20

Among other box makers known to be supplying tear-strip corrugated containers are: Cornell Paperboard Products Co., 1¹14 E. Thomas Ave., Milwaukee 1; Atlas-Boxmakers, Inc., 5025 W. 65 St., Chicago 38; Gaylord Container Corp., 111 N. Fourth St., St. Louis 2; Corrugated Container Corp., Columbus, Ohio; American Boxboard Co., Grand Rapids, Mich., and Kieckhefer Container Co., P. O. Box 710, Camden 1, N. J.

with **ONE** quick
simple operation...

**BAGS SEALED and
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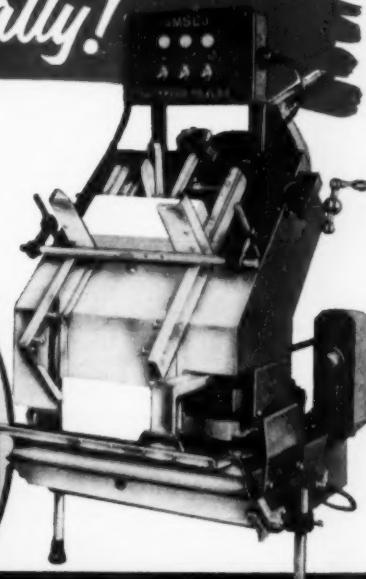
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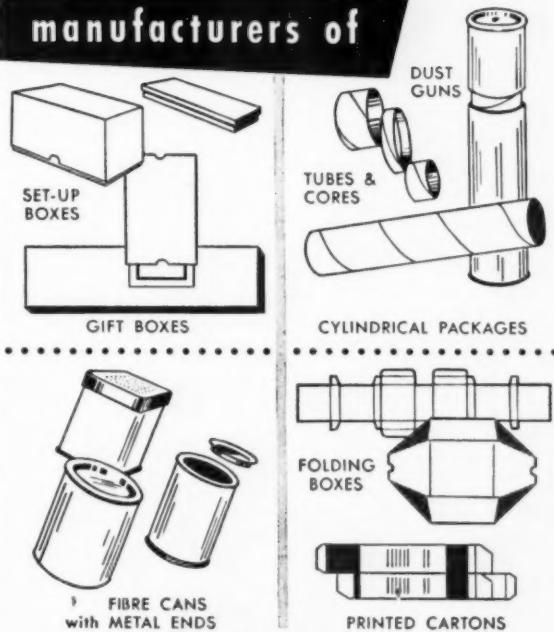
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WANTED: Pneumatic Scale Packaging Line, Capper, Labeler, Cellophane Wrapper. P. O. Box 1331, Church St. Station, New York 8, N.Y.

WANTED: In good condition used Beek Sheeters 55" width Model C.C.-SH-5. Transilwrap Co., 2814 Fullerton Ave., Chicago 47, Ill.

WANTED: Sack (Satchel Bottom) Bag Machine and also Garment Bag Machine, both with printer if available. Quote make, condition, age and price. Box 785, Modern Packaging.

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HELP WANTED: We are looking for an intelligent, alert young man for a package development and evaluation laboratory operated in connection with the technical sales function of a prominent flexible packaging producer. Some field work is also involved. Please reply, giving education and experience details, and photograph, if practical. Box 790, Modern Packaging.

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SALES MEN: An established engineering, design and manufacturing organization in the packaging and special machinery field desires representation. Avail yourself of this opportunity to increase your income under our liberal commission plan. For full particulars, write to: F. R. Schmitt & Son, 193-10 99th Avenue, Hollis 23, New York.

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PLANT MANAGER—INDUSTRIAL ENGINEER: Age 36, with three years experience as Plant Manager, eight years as Industrial Engineer with large midwest paper & plastic companies. Experience covers paper and plastic film assembly operations including heat sealing, sewing and packaging plus printing, embossing, coating, sheet cutting and rewinding. Desire management position with emphasis on responsibility, know-how and future. Box 789, Modern Packaging.

SALES AND SERVICE ENGINEER: Several years of sales, service and installation experience with automatic packaging, wrapping and labeling machinery used by the food and hard industry. Mechanical and sales ability to handle assignments and personnel without supervision. Have favorable customer contacts in the Southwest, Central and Western States. Willing to travel in the above area. Box 791, Modern Packaging.

SALES REPRESENTATIVE: With 15 yrs. experience in packaging field desires connection with progressive mfg. in this or related field. Residence Cincinnati, O. Complete resume furnished. Box 793, Modern Packaging.

PACKAGING ENGINEER—CHEMICAL ENGINEERING DEGREE: Age 31. Presently employed. Five years diversified experience with one employer—large company packaging for retail trade. Heavy on development—predicting trade performance—trouble shooting. Broad knowledge of packaging materials—particularly paper and paperboard—coatings and laminations. Desire administrative or technical position, with packaging firm or packaging material manufacturer. Midwest location. Box 794, Modern Packaging.

SELLING DESIGN: Designer with an excellent background is now available for a responsible position or a responsible client. In either case he can contribute the following, a diagnostic approach coupled with a fresh outlook, superior design necessary to visually sell products, knowledge of the selling factors in packaging, enthusiasm for the problem involved and the end result. Box 795, Modern Packaging.

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